Dec. '81

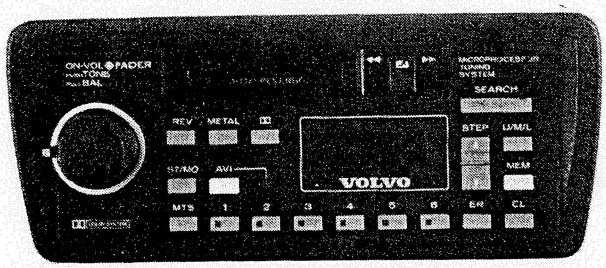
# SERVICE MANUAL

# VOLVO

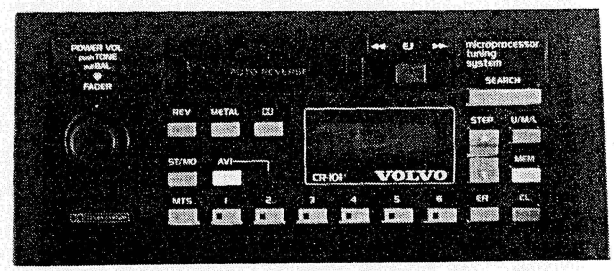
## *MICROPROCESSOR TUNING SYSTEM*

## LW/MW/FM-CASSETTE-STEREO

**RX-250VQ**




**CR-101**




CONTENTS


| | | Page |
|---|---|---|
| 1. | SPECIFICATIONS | 1 |
| 2. | OPERATING INSTRUCTIONS | 2 |
| 3. | ALIGNMENT PROCEDURES | 6 |
| 4. | BLOCK DIAGRAM | 13 |
| 5. | PARTS LIST | 26 |


The circuits and used parts of this unit may be changed due to the improvement of their performance, etc.

# 1. SPECIFICATIONS

## GENERAL:

| | |
|---|---|
| · Power Source: | DC 12V negative ground |
| · Fuses: | 2A + 3A |
| Current consumption: (with out input signal/no output) | Radio 860mA<br>Tape 920mA |
| · Output Impedance: | 4 ohm |
| · Output Power: | 6.5W x 4 |

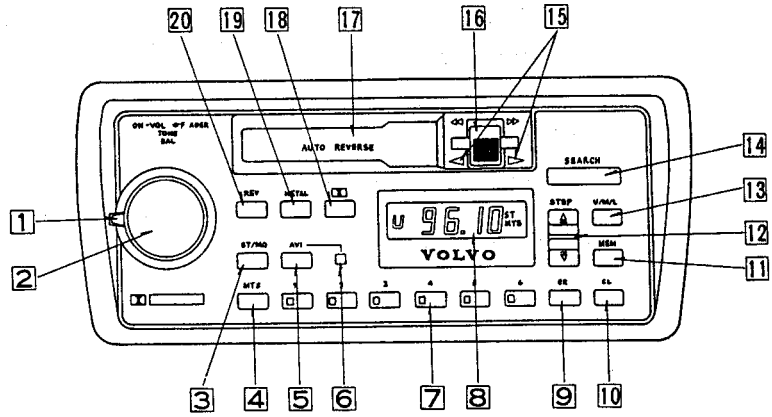
## Radio:

| | | |
|---|---|---|
| · Circuit system | : | Super heterodyne with RF amplifier |
| · Tuning range | : | FM 87.5 – 104 MHz<br>MW 522 – 1602 KHz<br>LW 155 – 281 KHz |
| · Max sensitivity | : | FM $< 3.5\ \mu V$<br>MW $< 25\ \mu V$<br>LW $< 35\ \mu V$ |
| · Stop sensitivity | : | FM $20\ \mu V \pm 4$ dB<br>MW $35\ \mu V \pm 4$ dB<br>LW $60\ \mu V \pm 6$ dB |
| · Stereo separation | : | $>$ 20 dB |

## Tape:

| | | |
|---|---|---|
| · Circuit system | : | 4 track, 2 channel (stereo for reproduction) |
| · Tape speed | : | 4.76 cm/sec. |
| · Wow Flutter | : | $<$ 0.35% |

## 2. OPERATING INSTRUCTIONS




| No. (Refer to Fig. 1) | Description | Operation and function |
|---|---|---|
| 1 | FADER CONTROL | This control balances the output between front and rear. |
| 2 | SWITCH/ VOL. BAL. TONE CONTROL | a) The switch/volume control operates conventionally: turn the Knob clockwise to turn on and to increase volume.<br>b) This control balances the audio output between right and left speakers. Rotate the knob while pulling out and locking. After adjustment, push the knob in.<br>c) The variable tone control varies the frequency response of the audio amplifier. For normal tone press the button and rotate it to the center position. This control provides bass or treble as to be preferred. |
| 3 | STEREO-MONO SWITCH | a) This works to switch over AUTO/STEREO for FM.<br>b) When received stereo program, STEREO indicator on the LCD display will be gone up.<br>c) At AUTO position, SRC (Stereo Reception Control) circuit newly introduced operates to do optimum FM stereo reception as follows.<br>1. Soft monaural to stereo changing according to receiving signal input level changing.<br>2. Stereo to monaural changing and high-cut function according to the distortion caused by multi-path. |
| 4 | MTS BUTTON | When pressed, unit works as FM MTS function all the time even when the unit is tuned to any band.<br>When the unit is working as MTS function, indication of MTS goes up on the display.<br>When the receiving frequency changing is made by pushing STEP or SEARCH button while MTS operation, preset button indicator disapears and MTS operation is released momentary.<br>MTS function can be changed to ORDINARY function by pushing FM/MW/LW SELECTOR button ( 13 ). |
| 5 | AVI BUTTON | a) When AVI button is pushed on, only AVI station can be received by searching. Searching is made from low frequency to high frequency in case of ordinary FM mode.<br>b) When the receiving AVI station signal becomes weak, and AVI pilot signal fade out for 10 second, then starts searching and stops at next AVI station. |

| No. (Refer to Fig. 1) | Description | Operation and function |
|---|---|---|
| | | c) When the SCAN button is pushed while AVI switch is on, scan function is made only for AVI station.<br>d) When AVI button is pressed at MTS mode, the best AVI station memorized in the same PRE SET button will be received.<br>And when the receiving AVI station signal becomes weak, then change to another best AVI station.<br>But when all AVI stations memorized in the PRE SET button become weak, changes to the ordinary FM mode and starts searching for AVI station from low frequency to high frequency. |
| 6 | AVI INDICATOR | |
| 7 | CHANNEL SELECTOR | 1) When MTS is ON.<br>When the receiving signal becomes weak during reception of program, changes to strong signal station memorized in the same MTS channel automatically.<br>When the receiving program button is pressed one more time, the receiving frequency is kept as it is, but the indication of MTS on the display twinkles five seconds.<br>When the same preset button is pressed while the indication of MTS is twinkling, next station memorized in the MTS channel comes up on the display and the indication of MTS twinkles fro five seconds.<br>Therefore we can check stations memorized in MTS channel by this button.<br>2) When MTS is OFF.<br>Each one station out of FM/MW/LW band which is memorized in the ORDINARY channel will be selected.<br>Functioned button are shown by indicator and tuned frequency is shown on the display. |
| 8 | FREQUENCY DISPLAY | |
| 9 | ERASE BUTTON | a) This button works only in MTS operation.<br>b) When the receiving PRE SET button is pressed first time in MTS operation, the receiving frequency is kept as it is but indication of MTS starts to twinkle and keeps twinkling for five seconds.<br>c) If no further operation is made while the indication of MTS is twinkling, then no erasing of memory is done and starts to do MTS operation again.<br>d) When the ERASE button is pressed while the MTS indication is twinkling, the station shown on the display is erased and CCCC is shown on the display. MTS operation starts five seconds after erasing. |
| 10 | CLEAR BUTTON | a) The button works only in MTS operation.<br>b) The station shown on the display is cleared momentary by pressing this button, and MTS operation is done with the remaining stations memorized in the MTS channel.<br>c) Momentary clear operation can be made till all stations memorized in the PRE SET button are cleared.<br>d) When the all stations are momentary cleared, CCCC is displayed and background noise is reduced by muting function.<br>d) Momentary clear is released when one of following operation is made:<br>Push Another PRE SET button<br>Push Band Selector button<br>Push Up or Down Step button |

| No. (Refer to Fig. 1) | Description | Operation and function |
|---|---|---|
| | | Push Search or Scan button<br>Push MTS button<br>Power OFF |
| 11 | MEMORY BUTTON | When pressed, it will be available to memorize (MEMORY ENABLE) the frequency shown on the display.<br>Operation for memory will be as follows.<br>a) Tune to the frequency you want to memorize at first by pressing SEARCH or STEP button.<br>And when pressed MEMORY button, band indicator on the display will be twinkled.<br>(When MTS and STEREO are worked, MTS indicator and STEREO indicator also will be twinkled.)<br>b) When press PRE SET button during band indicator is twinkling, the frequency shown on the display will be memorized and indicator stops twinkling.<br>c) At the time of MTS mode, it will be available to memorize 10 different stations into the one PRE SET button.<br>However when you try to memorize 11th station and when pressed MEMORY button, FFFF will be gone up on the display and unable to memorize the 11th station.<br>But when no SEARCH, STEP or BS button is operated, this station gone up when the MEMORY button is pushed again.<br>Therefore when required to memorize new frequency after 10 stations have been memorized, erase of memory at previous stage is required.<br>Tuning . . . . . (SEARCH or STEP)<br>↓<br>MEMORY button . . . . . (Push)<br>↓ . . . . Band indicator twinkles<br>PRE SET button . . . . . (Push)<br>↓<br>MEMORY . . . . . (Done)<br>d) Memorized station will be kept for 5 seconds after the memory operation and then change to the best station automatically. And during this 5 seconds, MTS indication is kept twinkling. |
| 12 | STEP UP/ DOWN BUTTON | By every one press, tuned frequency will be changed step by step. However by keeping on pressing this more than 0.5 seconds at one tome, this works as fast step.<br>After step button has been pressed, indicator of PRE SET button will be turned off. |
| 13 | FM/MW/LW SELECTOR | When pressed. MTS channel function is released and changed to ORDINARY channel function automatically.<br>FM — MW — LW changing, for example, is made by pushing this button. |
| 14 | SEARCH BUTTON | When pressed, station will be searched automatically from low frequency to high frequency and be stopped at station for five seconds and starts to search again for next station if no further operation has been made.<br>When pressed this button while searching is stopped at station, searching is stopped. When the search button is pressed, indication of PRE SET button will be disappear. |

| No. (Refer to Fig. 1) | Description | Operation and function |
|---|---|---|
| 15 | INDICATOR LAMPS-TAPE DIRECTION | |
| 16 | FAST FORWARD/FAST REWIND/ EJECT KNOB | Fast forward operation is engaged by moving the knob to the same side as the lighted indicator lamp. Return the knob to the center position when the desired selection on the tape has been reached. Fast rewind operation is engaged by moving the knob to the side opposite of lighted indicator lamp. Push the knob, the cassette will come out and tape playing is switched to the radio mode. When the power supply is switched off, the tape pinch force is released to protect the cassette tape. |
| 17 | PLAYING A CASSETTE | When cassette is inserted, the radio cuts out automatically. Push the cassette into the slot ( 17 ), tape side to the right. The tape will start playing automatically. The indicator lamps ( 15 ) show you which way the tape is running. Due to fact that the unit is equipped with "auto reverse", the tape keeps running continuously. |
| 18 | DOLBY-NOISE REDUCTION SWITCH | Push in Dolby-noise reduction button when playing back a dolby recorded tape. Release this button for tapes not recorded with the dolby system. |
| 19 | METAL SWITCH | When playing the metal and CrOa tape, with 70μs equalization, push in metal button to extend the dynamic range, frequency response, and improve total harmonic distortion. Release this button for the normal tapes. |
| 20 | CHANNEL SELECTOR TAPE | If you want to change channel, press the Rev-knob ( 20 ) lightly. |

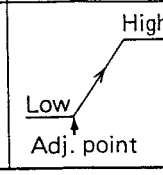
## 3. ALIGNMENT PROCEDURE

### [1] Check & Adjustment for CONTROL Section

| | STEP | CONNECTION | ADJUST | REMARKS |
|---|---|---|---|---|
| 1 | Quartz crystal adjustment | CON 804. PIN 4 (PWB-RIF) to frequency counter | VC 801 | Indication freq. \| MW 1602 kHz<br>Adjusting freq. \| 2052.000 kHz ± 0.002 |

### [2] Check & Adjustment for AM Section

* Refer to Fig. 2, 3

| STEP | | CONNECTION | | CONDITION | ADJUST | REMARKS |
|---|---|---|---|---|---|---|
| | | INPUT | OUTPUT | | | |
| 1 | Preset VC, VR | | | | · Preset VC1~ VC5 around to the center<br>· Turn VR1 fully CCW<br>· Turn VR2 fully CW | |
| 2 | Check VTUNE | | R15 to DC Voltmeter | Tune in 1602 kHz | | 7.5 ~ 8.4 V |
| 3 | IF | IF Sweep Generator output terminal to R33 through 56 kΩ resister | R37 to IF Sweep Generator input | IF Sweep Generator output<br>frequency: 450.0 kHz<br>level: 9 ~ 10 mV | T11 | Maximum and Symmetrical wave |
| 4 | RF Tracking (MW) | SG output terminal to antenna terminal through Dummy ANT. (Fig. 3) | Speaker output terminal to AC Voltmeter & Oscilloscope | Tune in 576 kHz | T4, T7 | Maximum output |
| 5 | | | | Tune in 1404 kHz | VC2, VC4 | Maximum output |
| 6 | | | | – | Repeat procedures (4) - (5), Step (5) shall always a final step. | – |
| 7 | RF Tracking (LW) | SG output terminal to antenna terminal through Dummy ANT. (Fig. 3) | Speaker output terminal to AC Voltmeter & Oscilloscope | Tune in 173 kHz | T5, T8 | Maximum output |
| 8 | | | | Tune in 263 kHz | VC1, VC3 | Maximum output |
| 9 | | | | – | Repeat procedures (7) - (8), Step (8) shall always a final step. | – |
| 10 | STOP | SG output terminal to antenna terminal through Dummy ANT. (Fig. 3) | D9 (cathode side) to DC voltmeter | SG output level: 30 μV<br>Tune in 999 kHz<br>(Shorten R32 to chassis in case of adjusting) | VR1 |  |

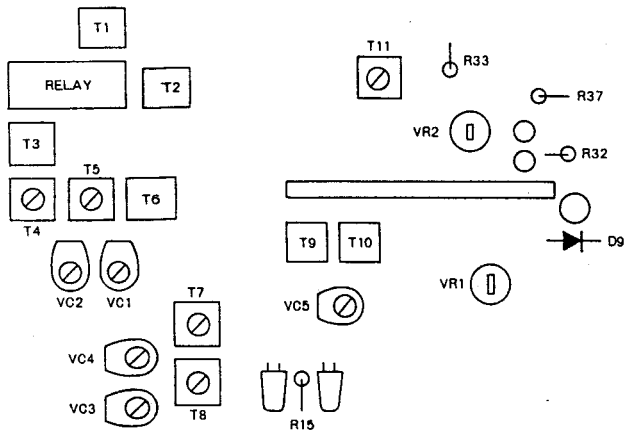



Fig. 2 Layout AMC

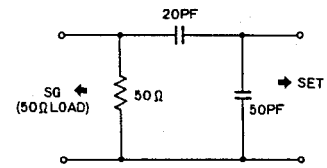
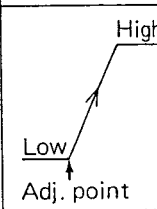


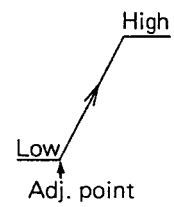
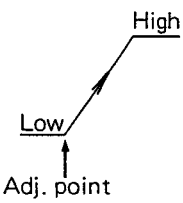

Fig. 3 AM Dummy Antenna

## [3] Check & Adjustment for FM Section

* Refer to Fig. 4

| STEP | | CONNECTION | | CONDITION | ADJUST | REMARKS |
|---|---|---|---|---|---|---|
| | | INPUT | OUTPUT | | | |
| 1 | IF | IF Sweep Generator output terminal to R109 through 10 pF condenser | R152 to IF Sweep Generator input terminal | | IF Sweep Generator V position | Set Base line of S curve |
| 2 | | | R153 to IF Sweep Generator input terminal | | T151 | The center of S curve (intersecting point with the base line) shall be the near position as 10.7 MHz marker |
| 3 | RF Tracking | SG output terminal to antenna terminal through Dummy Antenna (Fig. 5) | J2 to DC Voltmeter | ·Tune in 104 MHz<br>·Tune L102<br>(1.5T CCW from full CW position) | VC104 | 7.5 ± 0.05V |
| 4 | | | | ·Turn VR151, 152<br>(1/8T CCW from full CW position)<br>·Turn VR951<br>(full CW position)<br>·Turn VC101, 103<br>(MIN. capacity)<br>·Turn VC102<br>(around to the center) | | |
| 5 | | | Speaker output terminal to AC Voltmeter & Oscilloscope | ·Tune in 104 MHz | VC101 ~ 103 | Maximum output |
| 6 | | | | ·Tune in 87.5 MHz | T101 ~ 103 | Maximum output |
| 7 | | | | – | Repeat procedure (5) - (6) Step (5) shall always a final step. | – |

| STEP | | CONNECTION | | CONDITION | ADJUST | REMARKS |
|---|---|---|---|---|---|---|
| | | INPUT | OUTPUT | | | |
| 8 | | | Speaker output terminal to AC Voltmeter & Oscilloscope | ·SG output level: 2.5 ~ 5μV<br>·Tune in 98 MHz | T104 | Maximum outp |
| 9 | STOP | SG output terminal to antenna terminal through Dummy Antenna (Fig. 5) | R153, R152 to DC Voltmeter ( ⊕ ⊖ ) | SG output level: 500μV (30% MOD)<br>Tune in 98.0 MHz | T151 (Fine Tune) | 0 ± 0.05V |
| 10 | | | Speaker output terminal to AC Voltmeter, Oscilloscope & Distortion meter | SG output level: 500μV (100% MOD)<br>Tune in 98.0 MHz | T152 | Minimum Distortion (at 1W output |
| 11 | | | | – | Repeat procedures (9) - (10) Step (9) shall always a final step. | – |
| 12 | | | D151 (cathode side) to DC Voltmeter | SG output frequency 98 ± 0.23 MHz<br>Tune in 98.0 MHz | VR155 (+0.23 MHz)<br>VR156 (–0.23 MHz) |  |
| 13 | MUTING | SG output terminal to antenna terminal through Dummy Antenna (Fig. 5) | Speaker output terminal to AC Voltmeter & Oscilloscope | SG output level: 500μV (ref. level)<br>↓<br>9μV<br>Tune in 98.0 MHz | VR152 | –3 dB |
| 14 | | | | SG output level: 500μV (ref. level)<br>↓<br>0.1μV<br>Tune in 98.0 MHz | VR151 | - 32 ~ –36 dB |
| 15 | | | | SG output level: 500μV (ref. level)<br>↓<br>0.1μV<br>Tune in 98.0 MHz | VR951 | –42 ± 1 dB |
| 16 | L. R ch Level | SG output terminal to antenna terminal through Dummy Antenna (Fig. 5) | CN3 (Refer to Fig. 4) to AC Voltmeter & Oscilloscope | SG output level: 500μV<br>frequency: 98.0 MHz<br>Tune in 98.0 MHz | VR205 | Level:<br>Rch = Lch |

| STEP | | CONNECTION | | CONDITION | ADJUST | REMARKS |
|---|---|---|---|---|---|---|
| | | INPUT | OUTPUT | | | |
| 7 | MPX & SRC | SG output terminal to antenna terminal through Dummy Antenna (Fig. 5) | Speaker output terminal to AC Voltmeter & Oscilloscope | SG output level: 500μV (1000Hz, 30%, ST MOD) Tune in 98.0 MHz (ST/MO SW:ST) | VR201 (VR252: fully CCW) | Maximum Separation between R to L and L to R |
| 8 | | | R257 to DC Voltmeter | SG output level: 500μV (90 kHz, 18 kHz dev, ST MOD) Tune in 98.0 MHz (ST/MO SW:ST) | VR252 | 0.6 ± 0.05V |
| 9 | | | | SG output level: 200μV (1000 Hz, 30%, ST MOD) Tune in 98.0 MHz (ST/MO SW:ST) | VR251 | Separation between L to R: 10 ± 2 dB |
| 0 | AVI SDK | | IC 951, PIN ⑦ to Frequency Counter | (AVI SW:ON) | VR952 | 125 ± 2 kHz |
| 1 | | SG output terminal to antenna terminal through Dummy Antenna (Fig. 5) | J3 to AC Voltmeter | SG output level: 6μV (SK signal) | T951 | Maximum output |
| 2 | MTS Level Sensor | SG output terminal to antenna terminal through Dummy Antenna (Fig. 5) | CN2 (Low LEV, PIN) to DC Voltmeter | SG output level: 30μV (MOD. : OFF) Tune in 98.0 MHz | VR153 |   |
| 3 | | | CN2 (High LEV PIN) to DC Voltmeter | SG output level: 178μV (MOD. : OFF) Tune in 98.0 MHz | VR154 |   |
| 4 | MTS Soft clamp | SG output terminal to antenna terminal through Dummy Antenna (Fig. 5) | Speaker output terminal to Speaker | SG output frequency: 88.0 MHz level: 80μV (MOD. : OFF) Preset 88.0 MHz 98.0 MHz mutually in a channel selector button (MTS SW:ON) | VR202 (Lch) VR203 (Rch) | Minimum noise level (pop noise) |

| | STEP | CONNECTION | | CONDITION | ADJUST | REMARKS |
|---|---|---|---|---|---|---|
| | | INPUT | OUTPUT | | | |
| 25 | MTS Audio Signal Det. | SG output terminal to antenna terminal through Dummy Antenna (Fig. 5) | | SG output frequency: 98.0 MHz level: 80μV (400Hz, 2.3 kHz dev. MOD) | VR204 | MTS not operate |

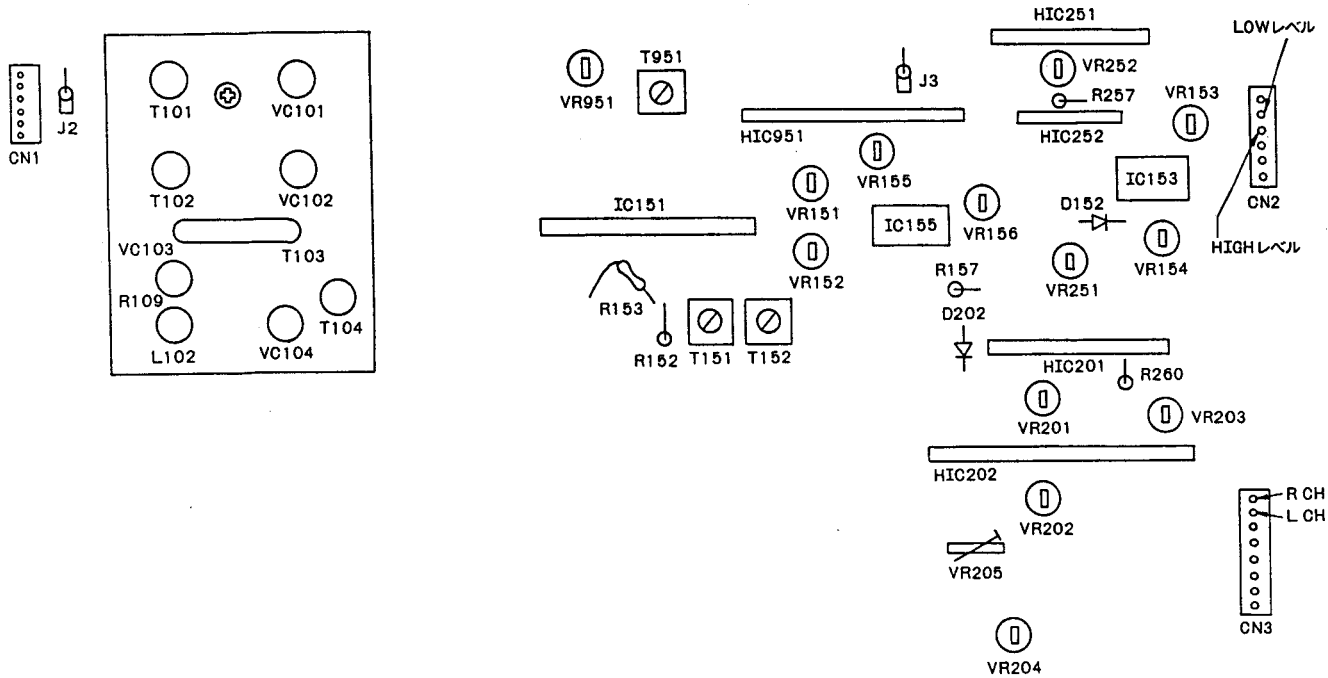



**Fig. 4 Layout FM (Adj. PARTS)**

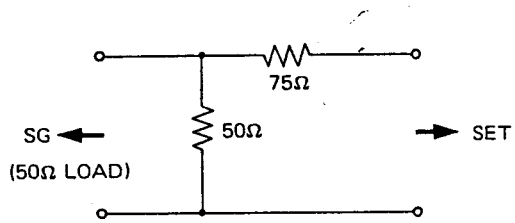



**Fig. 5 FM Dummy Antenna**

## [4] Check & Adjustment for TAPE DECK Section

* Refer to Fig. 6

| | STEP | CONNECTION | | CONDITION | ADJUST | REMARKS |
|---|---|---|---|---|---|---|
| | | INPUT | OUTPUT | | | |
| 1 | HEAD Azimuth | | Speaker output terminal to AC Voltmeter & Oscilloscope | Head Azimuth Test Tape: MTT-113C | Azimuth Adj. screw | Maximum output |
| 2 | DOLBY "LAW" | AF SG to TJ301 (Lch ⊕) - TJ302 (⊖) | R309 (Lch ⊕) - TJ302 (⊖) to AC Voltmeter | Audio freq.:5 kHz ± 1% (TAPE: ON DOLBY SW: OFF) | Input level | 59 mV |
| 3 | | | | Audio freq: 5 kHz ± 1% (TAPE: ON DOLBY SW:ON) | VR302 | 23.49 mV |
| 4 | DOLBY "LEVEL" | – | R309 (Lch ⊕)- TJ302 <Lch> R409 (Rch ⊕)- TJ302 <Rcn> | DOLBY Test TApe: MTT-150 (DOLBY SW: OFF) | VR301 (Lch) VR401 (Rch) | 775 mV |

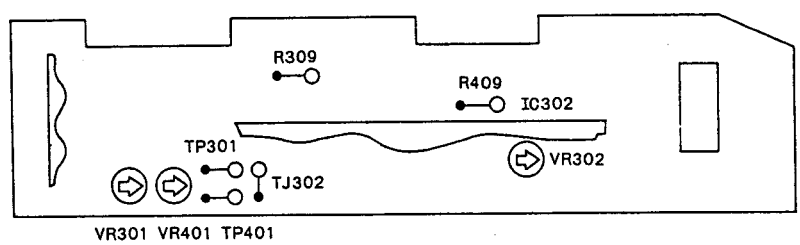
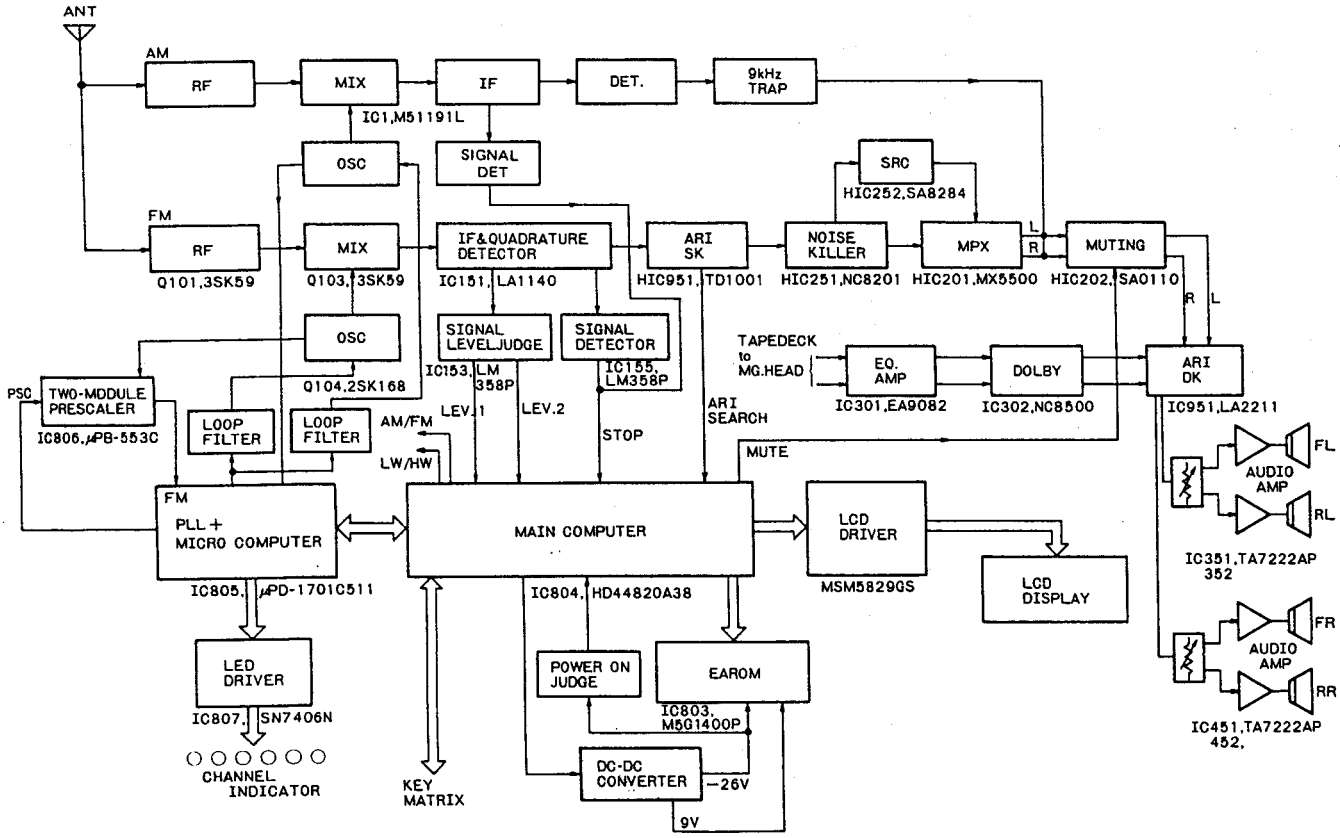
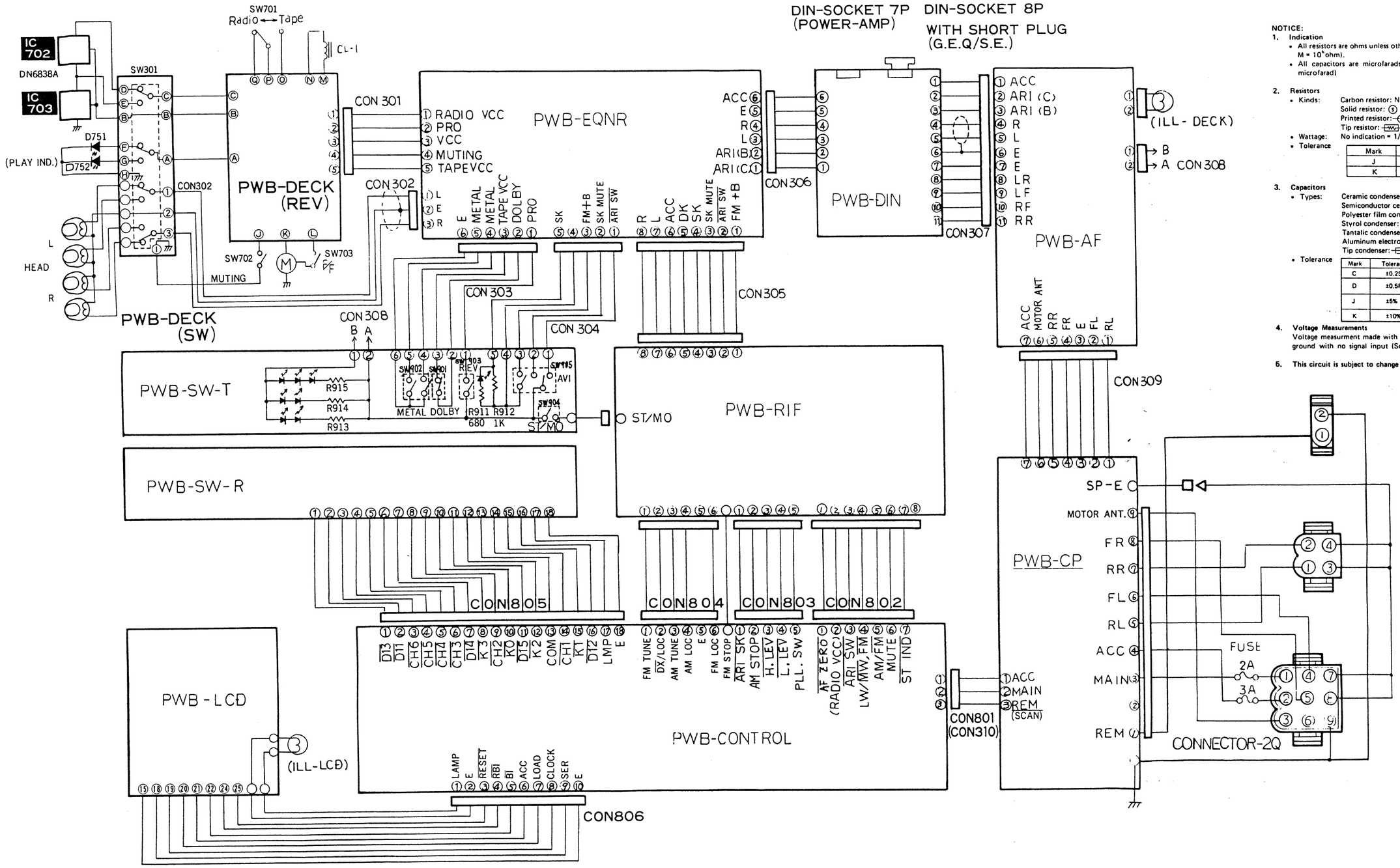



**Fig. 6 Layout EQNR (Adj. PARTS)**

## 4. BLOCK DIAGRAM



# SCHEMATIC DIAGRAM : RX-250




NOTICE:

1. Indication
   - All resistors are ohms unless otherwise specified. (K = $10^3$ ohm, M = $10^6$ ohm).
   - All capacitors are microfarads unless otherwise specified. (P = $10^{-6}$ microfarad)
2. Resistors
   - Kinds: Carbon resistor: No mark
     Solid resistor: (S) mark
     Printed resistor: ⁄W⁄ mark
     Tip resistor: ⁄W⁄ mark
   - Wattage: No indication = 1/4W. Other wattage will be indicated.
   - Tolerance

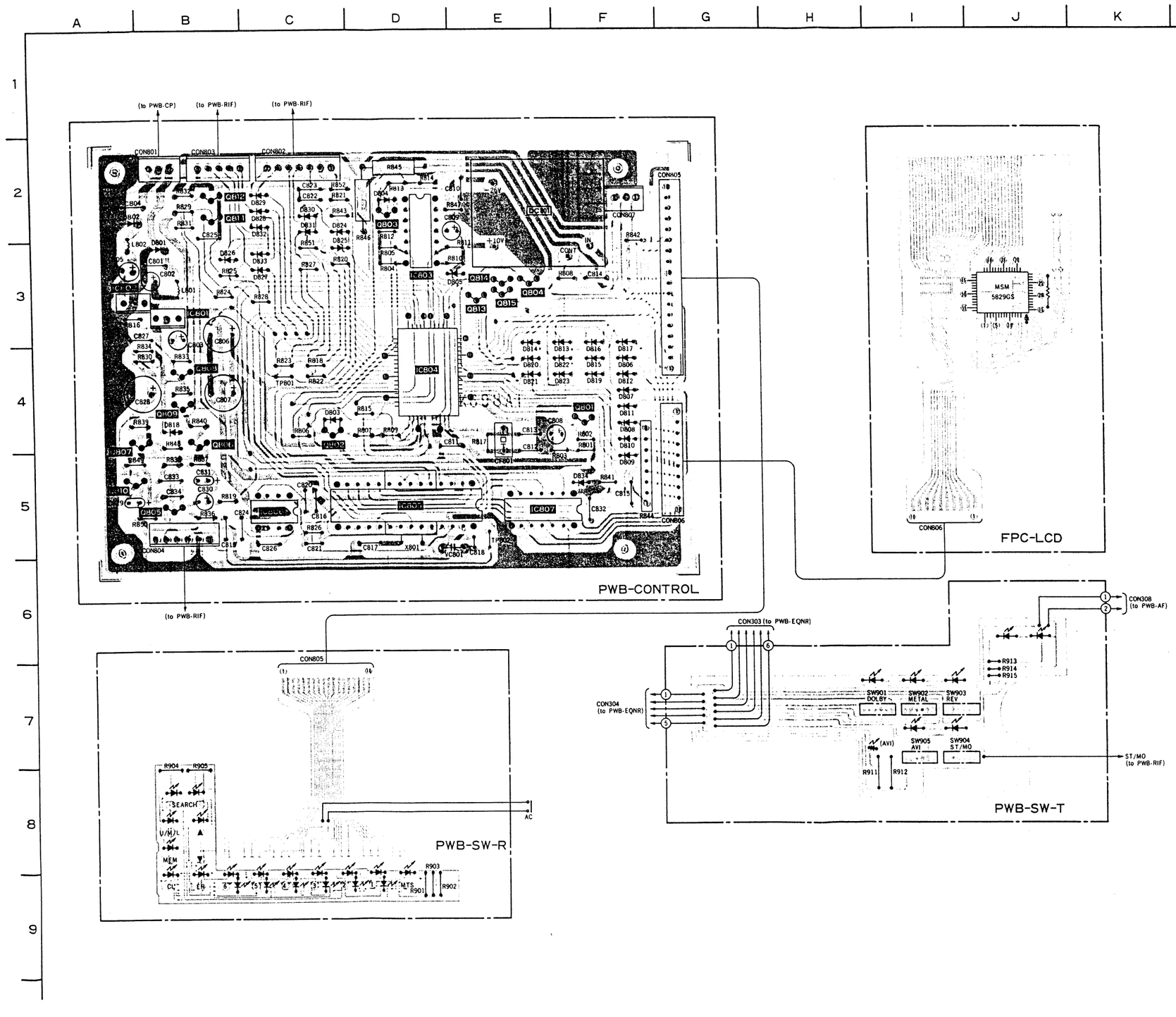
| Mark | Tolerance |
|---|---|
| J | ±5% |
| K | ±10% |

3. Capacitors
   - Types: Ceramic condenser: No mark
     Semiconductor ceramic condenser: (BC) mark
     Polyester film condenser: (P) mark
     Styrol condenser: (S) mark
     Tantalic condenser: (T) mark
     Aluminum electrolytic condenser: (Al) mark
     Tip condenser: ⁄T⁄ mark
   - Tolerance

| Mark | Tolerance | Mark | Tolerance |
|---|---|---|---|
| C | ±0.25PF | M | ±20% |
| D | ±0.5PF | Z | +80% −20% |
| J | ±5% | No mark | +100% −0 |
| K | ±10% | | |

4. Voltage Measurements
   Voltage measurment made with D.C. voltmeter (20 KΩ/V DC) to chassis ground with no signal input (Source voltage 13.8V).
5. This circuit is subject to change for improvement without notice.

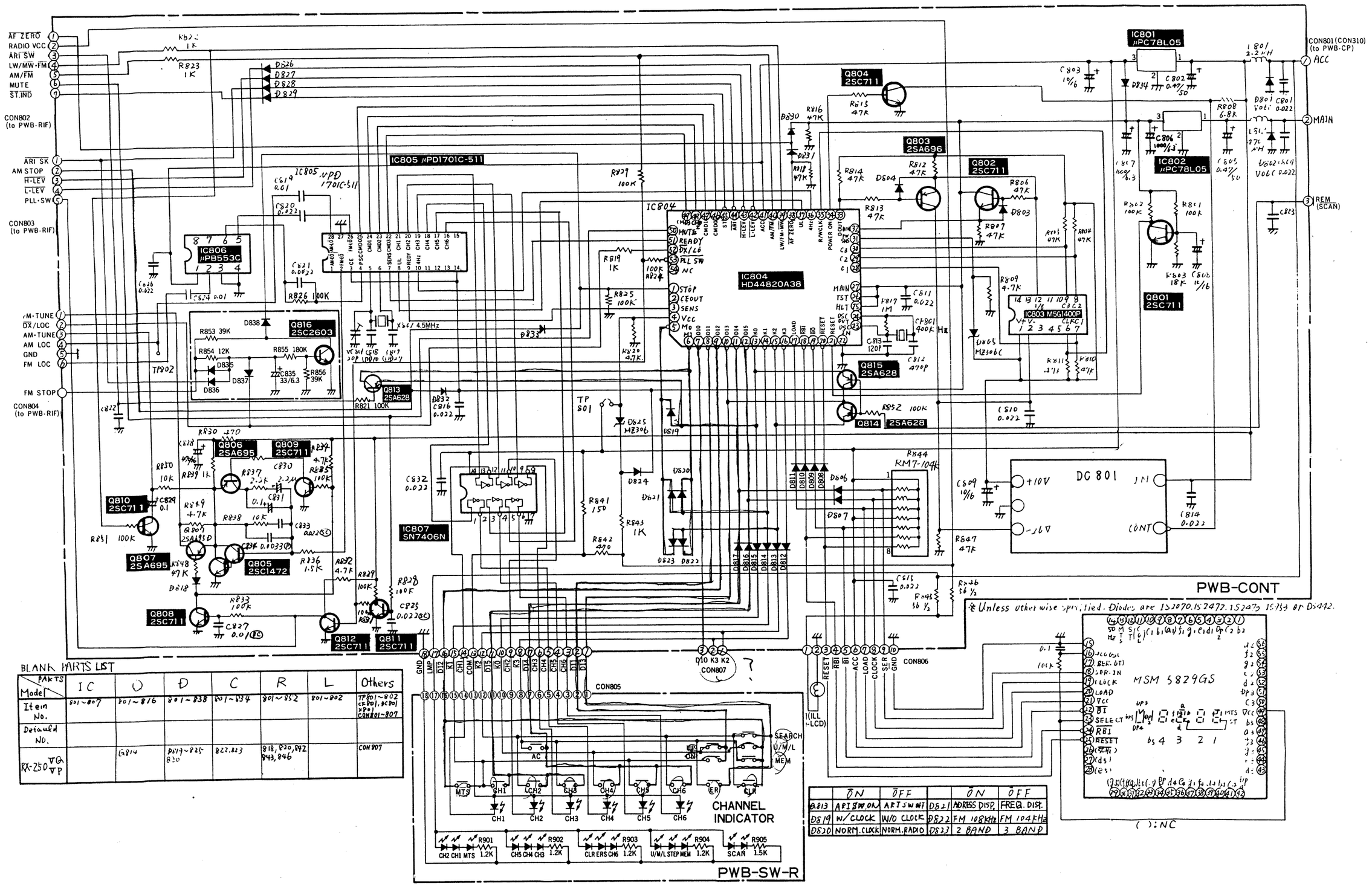
# PRINTED CIRCUIT BOARD (PATTERN SIDE-BOTTOM VIEW)
## PWB-CONTROL/SW-T/SW-R/FPC-LCD




## PWB-CONTROL

| REF.No | INDEX |
|---|---|
| **IC** | |
| IC801 | B-3 |
| IC802 | A-3 |
| IC803 | D-2 |
| IC804 | D-4 |
| IC805 | D-5 |
| IC806 | C-5 |
| IC807 | E-5 |
| **TRANSISTOR** | |
| Q801 | F-4 |
| Q802 | C-4 |
| Q803 | D-2 |
| Q804 | E-3 |
| Q805 | B-5 |
| Q806 | B-4 |
| Q807 | A-4 |
| Q808 | B-4 |
| Q809 | B-4 |
| Q810 | A-5 |
| Q811 | B-2 |
| Q812 | B-2 |
| Q813 | E-3 |
| (Q814) | E-3 |
| Q815 | E-3 |
| **DIODE** | |
| D801 | B-3 |
| D802 | A-2 |
| D803 | C-4 |
| D804 | D-2 |
| D805 | E-3 |
| D806 | F-4 |
| D807 | F-4 |
| D808 | F-4 |
| D809 | F-5 |
| D810 | F-4 |
| D811 | F-4 |
| D812 | F-4 |
| D813 | F-4 |
| D814 | E-4 |
| D815 | F-4 |
| D816 | F-4 |
| D817 | F-4 |
| D818 | B-4 |
| (D819) | F-4 |
| (D820) | E-4 |
| (D821) | E-4 |
| (D822) | F-4 |
| (D823) | F-4 |
| (D824) | C-2 |
| (D825) | C-3 |
| D826 | B-3 |
| D827 | C-3 |
| D828 | C-2 |
| D829 | C-2 |
| (D830) | C-2 |
| D831 | C-2 |
| D832 | C-2 |
| D833 | C-3 |
| D834 | F-5 |
| **COIL** | |
| L801 | B-3 |
| L802 | A-3 |
| **CONDENSER** | |
| C801 | B-3 |
| C802 | B-3 |
| C803 | B-3 |
| C804 | A-2 |
| C805 | A-3 |
| C806 | B-3 |
| C807 | B-4 |
| C808 | F-4 |
| C809 | E-2 |
| C810 | E-2 |
| C811 | D-4 |
| C812 | E-5 |
| C813 | E-4 |
| C814 | F-3 |
| C815 | F-5 |
| C816 | C-5 |
| C817 | D-5 |
| C818 | E-5 |
| C819 | B-5 |
| C820 | C-5 |
| C821 | C-5 |
| (C822) | C-2 |
| (C823) | C-2 |
| C824 | B-5 |
| C825 | B-2 |
| C826 | C-5 |
| C827 | A-3 |
| C828 | A-4 |
| C829 | A-5 |
| C830 | B-5 |
| C831 | B-5 |
| C832 | F-5 |
| C833 | B-5 |
| C834 | B-5 |
| **RESISTOR** | |
| R801 | F-5 |
| R802 | F-4 |
| R803 | F-5 |
| R804 | D-3 |
| R805 | D-3 |
| R806 | C-4 |
| R807 | D-4 |
| R808 | F-3 |
| R809 | D-4 |
| R810 | E-3 |
| R811 | E-3 |
| R812 | D-2 |
| R813 | D-2 |
| R814 | D-2 |
| R815 | D-4 |
| R816 | A-3 |
| R817 | E-4 |
| (R818) | C-4 |
| R819 | B-5 |
| (R820) | C-3 |
| R821 | C-2 |
| R822 | C-4 |
| R823 | C-4 |
| R824 | B-3 |
| R825 | B-3 |
| R826 | C-5 |
| R827 | C-3 |
| R828 | C-3 |
| R829 | B-2 |
| R830 | B-4 |
| R831 | B-2 |
| R832 | B-2 |
| R833 | B-4 |
| R834 | B-4 |
| R835 | B-4 |
| R836 | B-5 |
| R837 | B-5 |
| R838 | B-5 |
| R839 | A-4 |
| R840 | B-4 |
| R841 | F-5 |
| (R842) | F-3 |
| (R843) | C-2 |
| R844 | F-5 |
| R845 | D-2 |
| (R846) | D-2 |
| R847 | E-2 |
| R848 | B-4 |
| R849 | A-5 |
| R850 | B-5 |
| R851 | C-3 |
| R852 | C-2 |
| **CONNECTOR** | |
| CON801 | B-2 |
| CON802 | C-2 |
| CON803 | B-2 |
| CON804 | B-5 |
| CON805 | G-2 |
| CON806 | G-5 |
| (CON807) | F-2 |
| **OTHERS** | |
| X801 | D-5 |
| CF801 | E-4 |
| VC801 | D-5 |
| DC801 | E-2 |
| TP801 | C-4 |
| TP802 | E-5 |

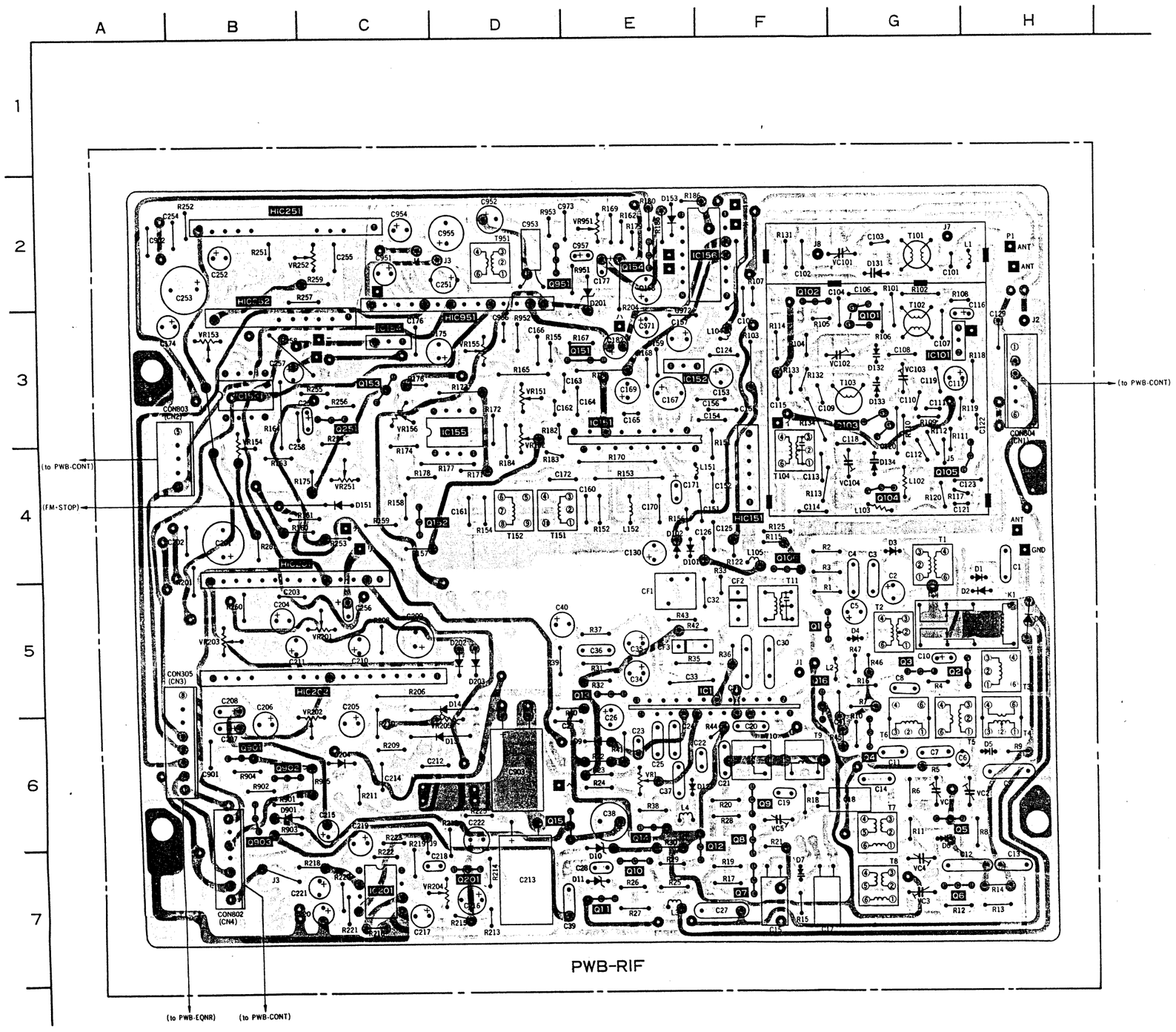
# SCHEMATIC DIAGRAM : RX-250
## PWB-CONT/SW-R




| Parts / Mode | IC | Q | D | C | R | L | Others |
|---|---|---|---|---|---|---|---|
| Item No. | 801~807 | 801~816 | 801~838 | 801~834 | 801~852 | 801~802 | TP801~802 CF801, SC801 X801 CON801~807 |
| Detailed NO. | | | | | | | |
| RX-250 VG VP | | G814 | D819~825 830 | 822.823 | 818, 820, 842 843, 846 | | CON807 |

| | ON | OFF | | ON | OFF |
|---|---|---|---|---|---|
| S813 | ARI SW ON | ARI SW WIT | DS21 | ADRESS DISP. | FREQ. DISP. |
| DS19 | W/CLOCK | W/O CLOCK | DS22 | FM 108KHz | FM 104KHz |
| DS20 | NORM. CLOCK | NORM. RADIO | DS23 | 2 BAND | 3 BAND |

# PRINTED CIRCUIT BOARD (PATTERN SIDE)
## PWB-RIF



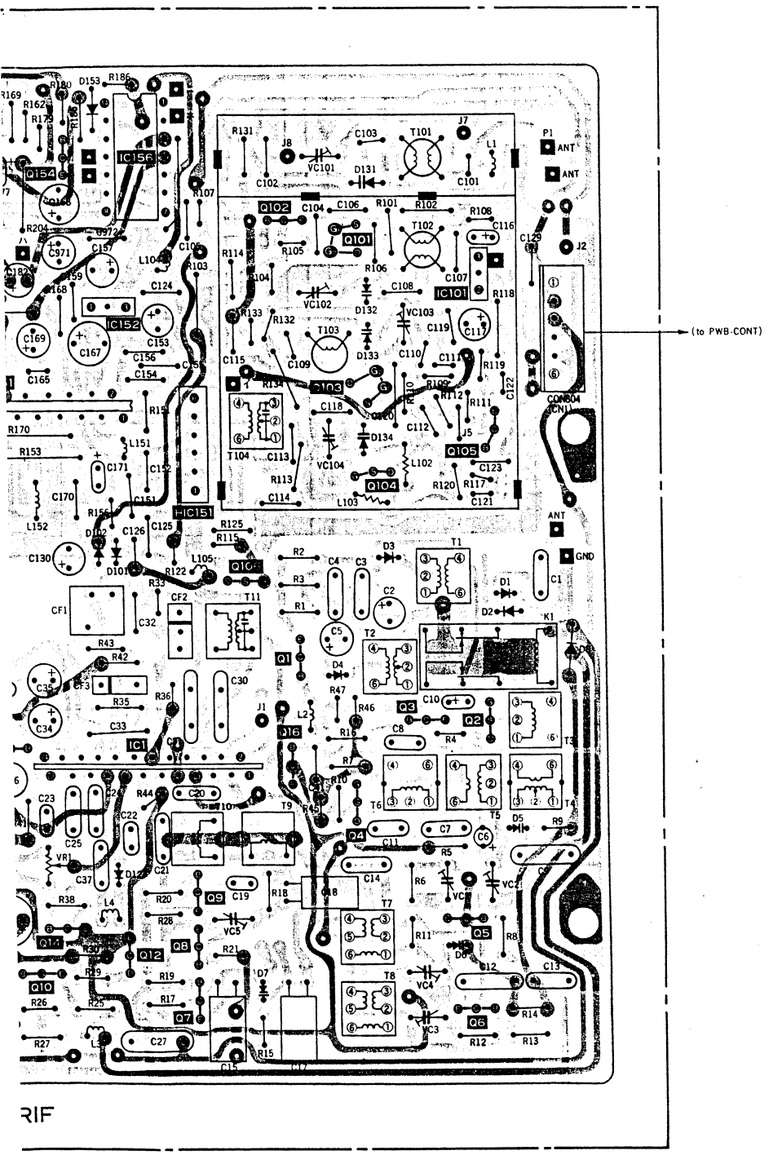

PWB-RIF

PWB-RIF

| REF.No | INDEX |
|---|---|
| IC | |
| IC1 | F-5 |
| IC101 | H-3 |
| IC151 | E-3 |
| HIC151 | F-4 |
| IC152 | E-3 |
| IC153 | B-3 |
| IC154 | C-3 |
| IC155 | D-3 |
| IC156 | F-2 |
| (IC201) | C-7 |
| HIC201 | C-4 |
| HIC202 | C-5 |
| HIC251 | B-2 |
| HIC252 | B-3 |
| HIC951 | D-2 |
| TRANSISTOR | |
| Q1 | F-5 |
| Q2 | G-5 |
| Q3 | G-5 |
| Q4 | G-6 |
| Q5 | H-6 |
| Q6 | H-7 |
| Q7 | F-7 |
| Q8 | F-6 |
| Q9 | F-6 |
| Q10 | E-7 |
| Q11 | E-7 |
| Q12 | F-7 |
| Q13 | E-5 |
| Q14 | E-6 |
| Q15 | D-6 |
| Q16 | F-5 |
| Q101 | G-3 |
| Q102 | F-2 |
| Q103 | G-3 |
| Q104 | G-4 |
| Q105 | H-4 |
| Q106 | F-4 |
| Q151 | E-3 |
| Q152 | C-4 |
| Q153 | C-3 |
| Q154 | E-2 |
| (Q201) | D-7 |
| Q251 | C-3 |
| Q901 | B-6 |
| Q902 | B-6 |
| Q903 | B-6 |
| Q951 | D-2 |
| DIODE | |
| D1 | G-4 |
| D2 | G-5 |
| D3 | G-4 |
| D4 | G-5 |
| D5 | H-6 |
| D6 | G-6 |
| D7 | F-7 |
| D8 | H-5 |
| D9 | E-6 |
| D10 | E-7 |
| D11 | E-7 |
| D12 | E-6 |
| D13 | D-6 |
| D14 | D-5 |
| D101 | E-4 |
| D102 | E-4 |
| D131 | G-2 |
| D132 | G-3 |
| D133 | G-3 |
| D134 | G-4 |
| D151 | C-4 |
| D152 | —— |
| D153 | E-2 |
| D201 | E-2 |
| D202 | D-5 |
| D203 | D-5 |
| D204 | C-6 |
| D901 | B-6 |
| TRANSFORMER | |
| T1 | G-4 |
| T2 | G-5 |
| T3 | H-6 |
| T4 | H-6 |
| T5 | G-6 |
| T6 | G-6 |
| T7 | G-6 |
| T8 | G-7 |
| T9 | F-6 |
| T10 | F-6 |
| T11 | F-5 |
| T101 | G-2 |
| T102 | G-3 |
| T103 | G-3 |
| T104 | F-4 |
| T151 | D-4 |
| T152 | D-4 |
| T951 | D-2 |
| COIL | |
| L1 | H-2 |
| L2 | G-5 |
| L3 | E-7 |
| L4 | E-6 |
| L102 | G-4 |
| L103 | G-4 |
| L104 | F-3 |
| L105 | F-4 |
| L151 | E-4 |
| L152 | E-4 |
| CONDENSER | |
| C1 | H-4 |
| C2 | G-4 |
| C3 | G-4 |
| C4 | G-4 |
| C5 | G-4 |
| C6 | G-5 |
| C7 | G-5 |
| C8 | G-5 |
| C9 | H-6 |
| C10 | G-5 |
| C11 | G-6 |
| C12 | G-7 |
| C13 | H-7 |
| C14 | G-6 |
| C15 | F-7 |
| C16 | —— |
| C17 | F-7 |
| C18 | G-6 |
| C19 | F-6 |
| C20 | F-6 |
| C21 | F-6 |
| C22 | E-6 |
| C23 | E-6 |
| C24 | E-6 |
| C25 | E-6 |
| C26 | E-6 |
| C27 | F-7 |
| C28 | E-7 |
| C30 | F-5 |
| C31 | F-5 |
| C32 | F-5 |
| C33 | E-5 |
| C34 | E-5 |
| C35 | E-5 |
| C36 | E-5 |
| C37 | E-6 |
| C38 | E-6 |
| C39 | D-7 |
| C40 | D-5 |
| C41 | F-5 |
| C101 | G-2 |
| C102 | F-2 |
| C103 | G-2 |
| C104 | G-2 |
| C105 | F-2 |
| C106 | G-2 |
| C107 | G-3 |
| C108 | G-3 |
| C109 | F-3 |
| C110 | G-3 |
| C111 | G-3 |
| C112 | G-4 |
| C113 | F-4 |
| C114 | F-4 |
| C115 | F-3 |
| C116 | H-3 |
| C117 | G-3 |
| C118 | G-3 |
| C119 | G-3 |
| C120 | G-4 |
| C121 | G-4 |
| C122 | H-3 |
| C123 | H-4 |
| C124 | F-3 |
| C125 | F-4 |
| C126 | E-4 |
| C127 | —— |
| C128 | —— |
| C129 | H-3 |
| C130 | E-4 |
| C151 | F-4 |
| C152 | F-3 |
| C153 | F-3 |
| C154 | F-3 |
| C155 | F-3 |
| C156 | F-3 |
| C157 | E-3 |
| C158 | —— |
| C159 | E-3 |
| C160 | E-4 |
| C161 | D-4 |
| C162 | D-3 |
| C163 | D-3 |
| C164 | D-3 |
| C165 | E-3 |
| C166 | D-3 |
| C167 | E-3 |
| C168 | E-2 |
| C169 | E-3 |
| C170 | E-4 |
| C171 | E-4 |
| C172 | D-4 |
| C173 | —— |
| C174 | B-3 |
| C175 | D-3 |
| C176 | C-3 |
| C177 | E-2 |
| C178 | —— |
| C179 | —— |
| C201 | B-4 |
| C202 | A-4 |
| C203 | B-5 |
| C204 | B-5 |
| C205 | C-5 |
| C206 | B-5 |
| C207 | B-6 |
| C208 | B-5 |
| C209 | C-5 |
| C210 | C-5 |
| C211 | B-5 |
| C212 | C-6 |
| C213 | D-7 |
| C214 | C-6 |
| (C215) | C-6 |
| (C216) | D-7 |
| (C217) | C-7 |
| (C218) | C-7 |
| RE | |
| R1 | |
| R2 | |
| R3 | |
| R4 | |
| R5 | |
| R6 | |
| R7 | |
| R8 | |
| R9 | |
| R10 | |
| R11 | |
| R12 | |
| R13 | |
| R14 | |
| R15 | |
| R16 | |
| R17 | |

RD (PATTERN SIDE)
RIF

E | F | G | H

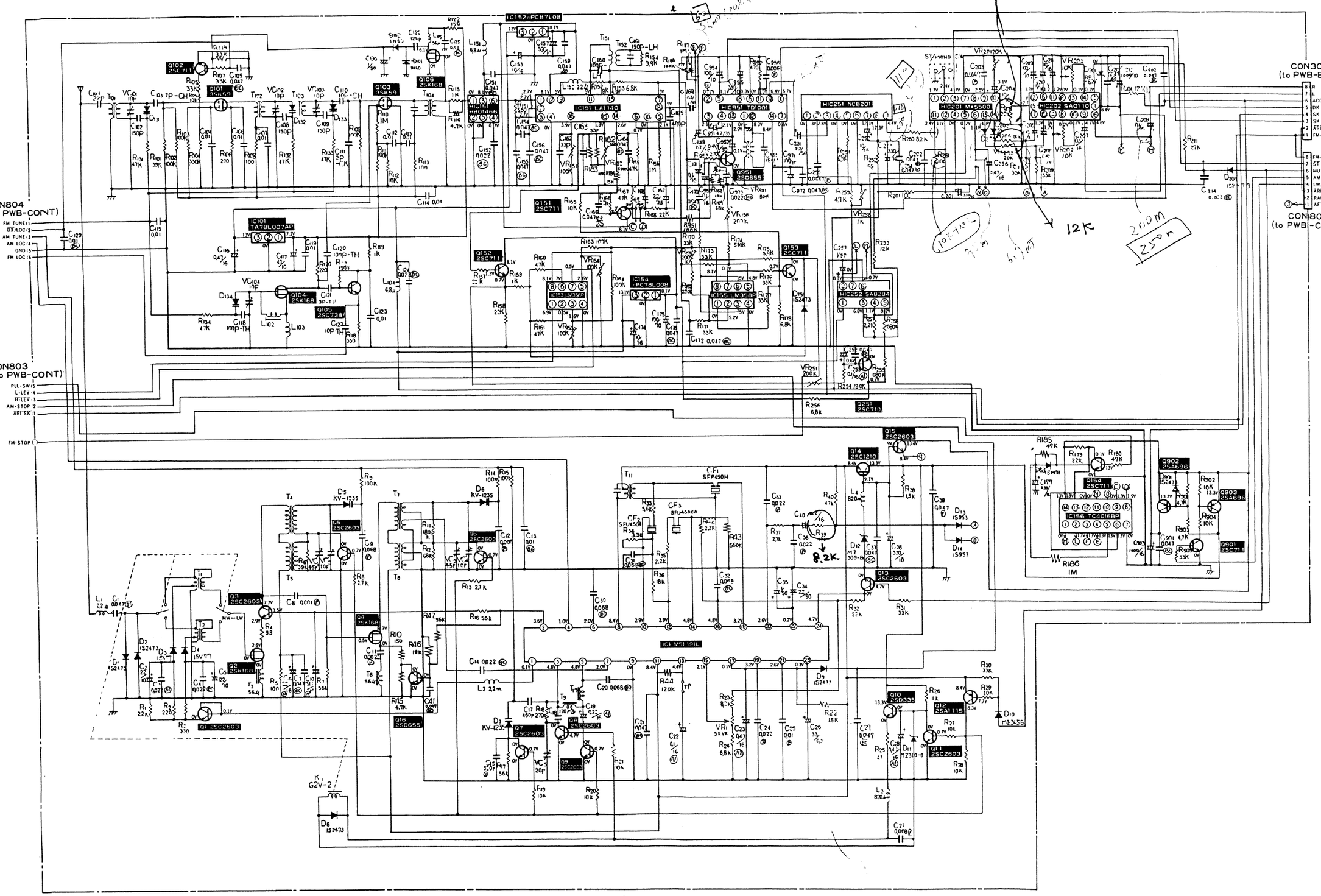



RIF

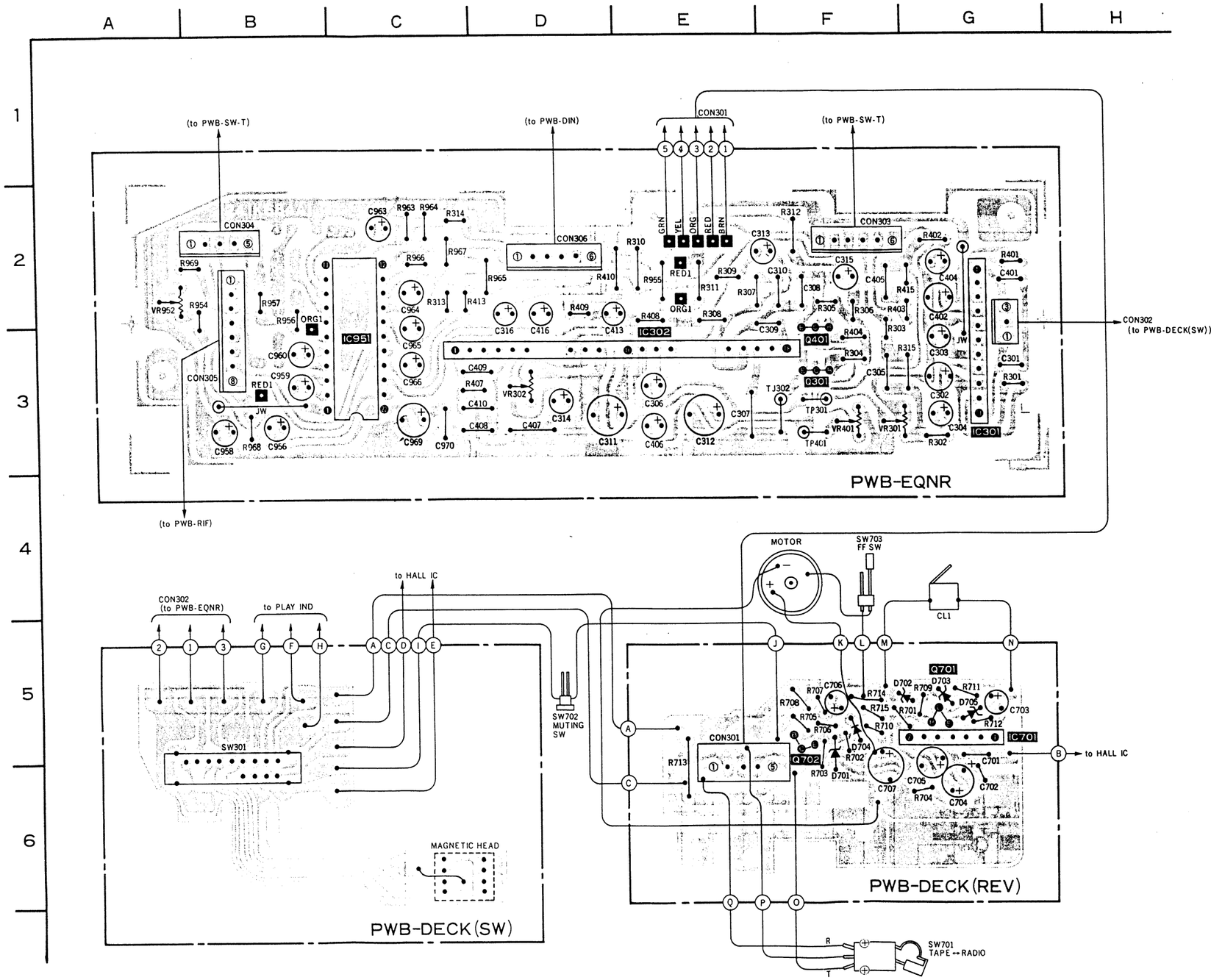
PWB-RIF

| REF.No | INDEX |
|---|---|
| **IC** | |
| IC1 | F-5 |
| IC101 | H-3 |
| IC151 | E-3 |
| HIC151 | F-4 |
| IC152 | E-3 |
| IC153 | B-3 |
| IC154 | C-3 |
| IC155 | D-3 |
| IC156 | F-2 |
| (IC201) | C-7 |
| HIC201 | C-4 |
| HIC202 | C-5 |
| HIC251 | B-2 |
| HIC252 | B-3 |
| HIC951 | D-2 |
| **TRANSISTOR** | |
| Q1 | F-5 |
| Q2 | G-5 |
| Q3 | G-5 |
| Q4 | G-6 |
| Q5 | H-6 |
| Q6 | H-7 |
| Q7 | F-7 |
| Q8 | F-6 |
| Q9 | F-6 |
| Q10 | E-7 |
| Q11 | E-7 |
| Q12 | F-7 |
| Q13 | E-5 |
| Q14 | E-6 |
| Q15 | D-6 |
| Q16 | F-5 |
| Q101 | G-3 |
| Q102 | F-2 |
| Q103 | G-3 |
| Q104 | G-4 |
| Q105 | H-4 |
| Q106 | F-4 |
| Q151 | E-3 |
| Q152 | C-4 |
| Q153 | C-3 |
| Q154 | E-2 |
| (Q201) | D-7 |
| Q251 | C-3 |
| Q901 | B-6 |
| Q902 | B-6 |
| Q903 | B-6 |
| Q951 | D-2 |
| **DIODE** | |
| D1 | G-4 |
| D2 | G-5 |
| D3 | G-4 |
| D4 | G-5 |
| D5 | H-6 |
| D6 | G-6 |
| D7 | F-7 |
| D8 | H-5 |
| D9 | E-6 |
| D10 | E-7 |
| D11 | E-7 |
| D12 | E-6 |
| D13 | D-6 |
| D14 | D-5 |
| D101 | E-4 |
| D102 | E-4 |
| D131 | G-2 |
| D132 | G-3 |
| D133 | G-3 |
| D134 | G-4 |
| D151 | C-4 |
| D152 | — |
| D153 | E-2 |
| D201 | E-2 |
| D202 | D-5 |
| D203 | D-5 |
| D204 | C-6 |
| D901 | B-6 |
| **TRANSFORMER** | |
| T1 | G-4 |
| T2 | G-5 |
| T3 | H-6 |
| T4 | H-6 |
| T5 | G-6 |
| T6 | G-6 |
| T7 | G-6 |
| T8 | G-7 |
| T9 | F-6 |
| T10 | F-6 |
| T11 | F-5 |
| T101 | G-2 |
| T102 | G-3 |
| T103 | G-3 |
| T104 | F-4 |
| T151 | D-4 |
| T152 | D-4 |
| T951 | D-2 |
| **COIL** | |
| L1 | H-2 |
| L2 | G-5 |
| L3 | E-7 |
| L4 | E-6 |
| L102 | G-4 |
| L103 | G-4 |
| L104 | F-3 |
| L105 | F-4 |
| L151 | E-4 |
| L152 | E-4 |
| **CONDENSER** | |
| C1 | H-4 |
| C2 | G-4 |
| C3 | G-4 |
| C4 | G-4 |
| C5 | G-4 |
| C6 | G-5 |
| C7 | G-5 |
| C8 | G-5 |
| C9 | H-6 |
| C10 | G-5 |
| C11 | G-6 |
| C12 | G-7 |
| C13 | H-7 |
| C14 | G-6 |
| C15 | F-6 |
| C16 | — |
| C17 | F-7 |
| C18 | G-6 |
| C19 | F-6 |
| C20 | F-6 |
| C21 | F-6 |
| C22 | E-6 |
| C23 | E-6 |
| C24 | E-6 |
| C25 | E-6 |
| C26 | E-6 |
| C27 | F-7 |
| C28 | E-7 |
| C29 | D-6 |
| C30 | F-5 |
| C31 | F-5 |
| C32 | F-5 |
| C33 | E-5 |
| C34 | E-5 |
| C35 | E-5 |
| C36 | E-5 |
| C37 | E-6 |
| C38 | E-6 |
| C39 | D-7 |
| C40 | D-5 |
| C41 | F-5 |
| C101 | G-2 |
| C102 | F-2 |
| C103 | G-2 |
| C104 | G-2 |
| C105 | F-2 |
| C106 | G-2 |
| C107 | G-3 |
| C108 | G-3 |
| C109 | F-3 |
| C110 | G-3 |
| C111 | G-3 |
| C112 | G-4 |
| C113 | F-4 |
| C114 | F-4 |
| C115 | F-3 |
| C116 | H-3 |
| C117 | G-3 |
| C118 | G-3 |
| C119 | G-3 |
| C120 | G-4 |
| C121 | G-4 |
| C122 | H-3 |
| C123 | H-4 |
| C124 | F-3 |
| C125 | F-4 |
| C126 | E-4 |
| C127 | — |
| C128 | — |
| C129 | H-3 |
| C130 | E-4 |
| C151 | F-4 |
| C152 | F-3 |
| C153 | F-3 |
| C154 | F-3 |
| C155 | F-3 |
| C156 | F-3 |
| C157 | E-3 |
| C158 | — |
| C159 | E-3 |
| C160 | E-4 |
| C161 | D-4 |
| C162 | D-3 |
| C163 | D-3 |
| C164 | D-3 |
| C165 | E-3 |
| C166 | D-3 |
| C167 | E-3 |
| C168 | E-2 |
| C169 | E-3 |
| C170 | E-4 |
| C171 | E-4 |
| C172 | D-4 |
| C173 | — |
| C174 | B-3 |
| C175 | D-3 |
| C176 | C-3 |
| C177 | E-2 |
| C178 | — |
| C179 | — |
| C201 | B-4 |
| C202 | A-4 |
| C203 | B-5 |
| C204 | B-5 |
| C205 | C-5 |
| C206 | B-5 |
| C207 | B-6 |
| C208 | B-5 |
| C209 | C-5 |
| C210 | C-5 |
| C211 | B-5 |
| C212 | C-6 |
| C213 | D-7 |
| C214 | C-6 |
| (C215) | C-6 |
| (C216) | D-7 |
| (C217) | C-7 |
| (C218) | C-7 |
| (C219) | C-6 |
| (C220) | B-7 |
| (C221) | B-7 |
| (C222) | D-6 |
| C251 | D-2 |
| C252 | B-2 |
| C253 | A-2 |
| C254 | A-2 |
| C255 | C-2 |
| C256 | C-5 |
| C257 | B-3 |
| C258 | B-3 |
| C259 | C-3 |
| C901 | B-6 |
| C902 | A-2 |
| C903 | D-6 |
| C951 | C-2 |
| C952 | D-2 |
| C953 | D-2 |
| C954 | C-2 |
| C955 | D-2 |
| C956 | D-3 |
| C957 | E-2 |
| C971 | E-3 |
| C972 | F-3 |
| C973 | D-2 |
| **RESISTOR** | |
| R1 | F-5 |
| R2 | F-4 |
| R3 | F-4 |
| R4 | G-5 |
| R5 | G-6 |
| R6 | G-6 |
| R7 | G-5 |
| R8 | H-6 |
| R9 | H-6 |
| R10 | G-6 |
| R11 | G-6 |
| R12 | G-7 |
| R13 | H-7 |
| R14 | H-7 |
| R15 | F-7 |
| R16 | G-5 |
| R17 | F-7 |
| R18 | F-6 |
| R19 | F-7 |
| R20 | F-6 |
| R21 | F-6 |
| R22 | E-6 |
| R23 | E-6 |
| R24 | E-6 |
| R25 | E-7 |
| R26 | E-6 |
| R27 | E-6 |
| R28 | E-5 |
| R29 | E-7 |
| R30 | E-6 |
| R31 | E-5 |
| R32 | E-5 |
| R33 | F-4 |
| R34 | — |
| R35 | E-5 |
| R36 | E-5 |
| R37 | E-5 |
| R38 | E-6 |
| R39 | D-5 |
| R40 | D-5 |
| R41 | E-6 |
| R42 | F-5 |
| R43 | F-5 |
| R44 | F-6 |
| R45 | F-6 |
| R46 | G-5 |
| R47 | G-5 |
| R101 | G-2 |
| R102 | G-2 |
| R103 | F-3 |
| R104 | F-3 |
| R105 | F-3 |
| R106 | G-2 |
| R107 | F-2 |
| R108 | G-2 |
| R109 | G-3 |
| R110 | G-3 |
| R112 | G-4 |
| R113 | F-3 |
| R114 | F-3 |
| R115 | F-4 |
| R116 | — |
| R117 | G-4 |
| R118 | H-3 |
| R119 | G-3 |
| R120 | G-4 |
| R121 | — |
| R122 | F-4 |
| R123 | — |
| R124 | — |
| R125 | F-2 |
| R131 | F-3 |
| R132 | F-3 |
| R133 | F-3 |
| R134 | F-3 |
| R151 | F-4 |
| R152 | E-4 |
| R153 | E-4 |
| R154 | E-4 |
| R155 | D-3 |
| R156 | E-4 |
| R157 | C-4 |
| R158 | C-4 |
| R159 | C-4 |
| R160 | B-4 |
| R161 | C-4 |
| R162 | E-2 |
| R163 | B-4 |
| R164 | B-3 |
| R165 | D-3 |
| R166 | — |
| R167 | E-3 |
| R168 | E-3 |
| R169 | E-2 |
| R170 | E-4 |
| R171 | D-4 |
| R172 | D-3 |
| R173 | D-3 |
| R174 | C-4 |
| R175 | B-4 |
| R176 | C-3 |
| R177 | D-4 |
| R178 | C-4 |
| R179 | E-2 |
| R180 | E-2 |
| R181 | — |
| R182 | D-3 |
| R183 | D-4 |
| R184 | D-4 |
| R185 | E-2 |
| R186 | E-2 |
| R187 | — |
| R188 | E-3 |
| R201 | A-4 |
| R202 | — |
| R203 | — |
| R204 | E-3 |
| R205 | — |
| R206 | C-5 |
| R207 | — |
| R208 | C-5 |
| R209 | C-6 |
| R210 | C-5 |
| R211 | C-6 |
| (R212) | C-6 |
| (R213) | D-7 |
| (R214) | D-7 |
| (R215) | D-7 |
| (R216) | C-7 |
| R217 | — |
| (R218) | B-7 |
| (R219) | C-6 |
| (R220) | C-7 |
| (R221) | C-7 |
| (R222) | C-6 |
| (R223) | C-6 |
| R224 | — |
| (R225) | D-6 |
| R251 | B-2 |
| R252 | B-2 |
| R253 | C-4 |
| R254 | C-3 |
| R255 | C-3 |
| R256 | C-3 |
| R257 | C-2 |
| R258 | B-3 |
| R259 | C-2 |
| R260 | B-5 |
| R261 | B-4 |
| R901 | B-6 |
| R902 | B-6 |
| R903 | B-6 |
| R904 | B-6 |
| R905 | B-6 |
| R951 | E-2 |
| R952 | D-3 |
| R953 | D-2 |
| **VC** | |
| VC1 | G-6 |
| VC2 | H-6 |
| VC3 | G-7 |
| VC4 | G-7 |
| VC5 | F-6 |
| VC101 | G-2 |
| VC102 | G-3 |
| VC103 | G-3 |
| VC104 | G-4 |
| **CF** | |
| CF1 | E-5 |
| CF2 | F-5 |
| CF3 | E-5 |
| **RELAY** | |
| K1 | H-5 |
| **CONNECTOR** | |
| CON305 | A-5 |
| CON802 | B-7 |
| CON803 | A-3 |
| CON804 | H-3 |
| **VR** | |
| VR1 | E-6 |
| VR151 | D-3 |
| VR152 | D-4 |
| VR153 | B-3 |
| VR154 | B-4 |
| VR155 | D-3 |
| VR156 | C-3 |
| VR201 | C-5 |
| VR202 | C-6 |
| VR203 | B-5 |
| (VR204) | C-7 |
| VR205 | C-6 |
| VR251 | C-4 |
| VR252 | B-2 |
| VR951 | E-2 |

# SCHEMATIC DIAGRAM : RX-250
## PWB-RIF


CON804
(to PWB-CONT)
FM TUNE 7
DX/LOC 2
AM TUNE 3
AM LOC 4
GND 5
FM LOC 6
CON803
(to PWB-CONT)
PLL-SW 5
L-LEV 4
H-LEV 3
AM-STOP 2
ARI SK 1
FM-STOP
CON305
(to PWB-EQNR)
8 B
7 L
6 ACC
5 DK
4 SK
3 SK MUTE
2 ARI SW
1 FM+B
CON802
(to PWB-CONT)
8 FM+B
7 ST ING
6 MUTE
5 AM/FM
4 LW/MW-FM
3 ARI SW
2 RADIO VCC
1 AF ZERO
IC152 μPC87L08
IC151 LA1140
IC101 TA78L007AP
IC154 μPC78L008
IC153 LM358P
IC155 LM358P
IC1 M51191L
IC195 TC4011BP
HIC251 NC8201
HIC201 MX5500
HIC202 SAQ110
HIC252 SAB-84
Q102 2SC711
Q101 2SK59
Q103 2SK59
Q106 2SK168
Q104 2SK168
Q105 2SC738Y
Q151 2SC711
Q152 2SC711
Q153 2SC711
Q951 2SD855
Q251 2SC710
Q15 2SC2603
Q14 2SC1210
Q13 2SC2603
Q10 2SD335
Q12 2SA1115
Q11 2SC2603
Q194 2SC711
Q902 2SA696
Q903 2SA696
Q901 2SC711
Q1 2SC2603
Q2 2SK168
Q3 2SC2603
Q4 2SK168
Q16 2SD655
Q5 2SC2603
Q6 2SC2603
Q7 2SC2603
Q8 2SC2603
Q9 2SC2603
T1
T2
T3
T4
T5
T6
T7
T8
T11
T101
T102
T103
T104
T151
T152
T153
T154
T155
T156
T157
T158
T159
T160
T161
T162
T163
T164
T165
T166
T167
T168
T169
T170
T171
T172
T173
T174
T175
T176
T177
T178
T179
T180
T181
T182
T183
T184
T185
T186
T187
T188
T189
T190

# PRINTED CIRCUIT BOARD (PATTERN SIDE)
# PWB-EQNR/DECK(REV)/DECK(SW)




## PWB-EQNR

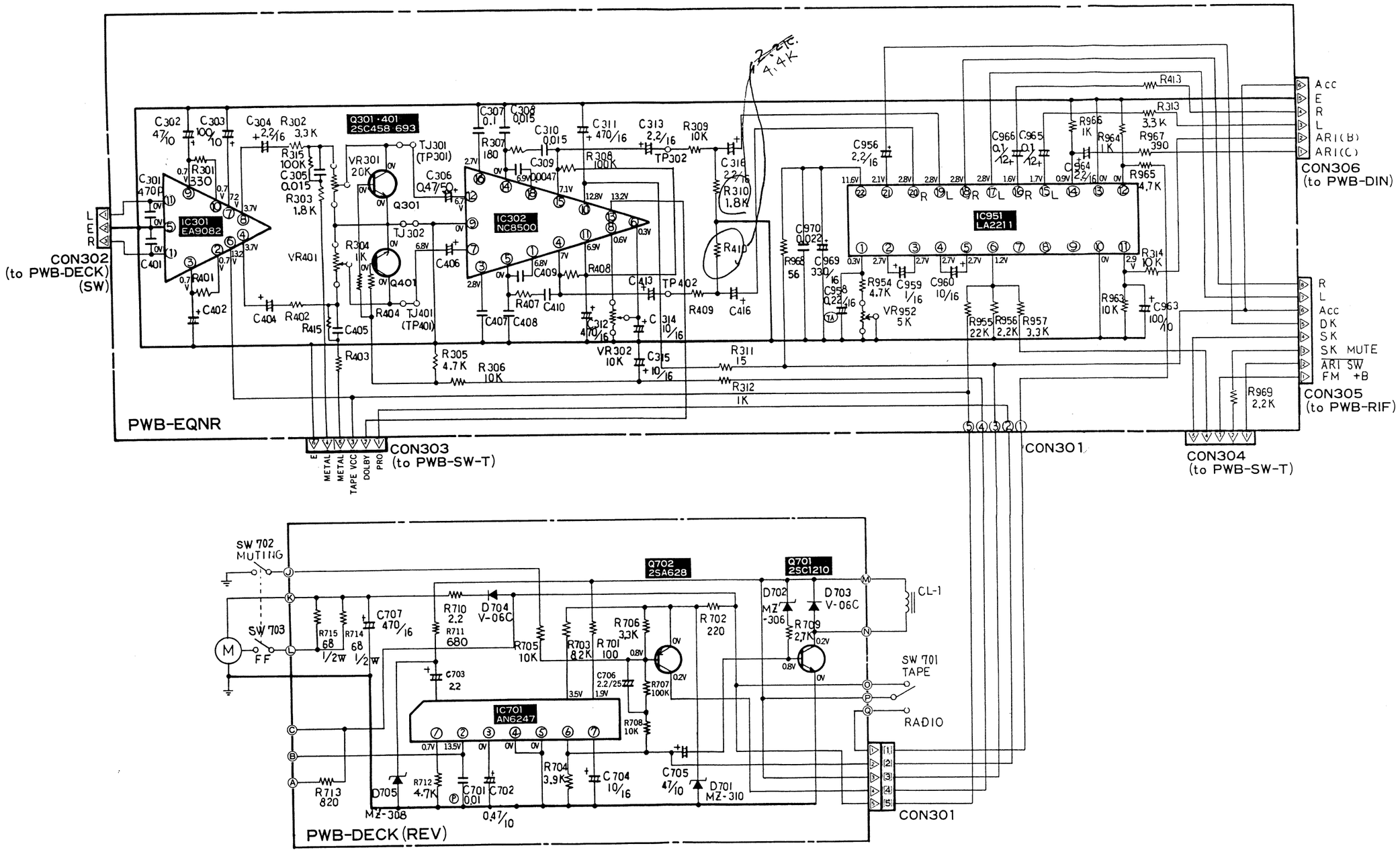
| REF.No | INDEX |
|---|---|
| **I C** | |
| IC301 | G-3 |
| IC302 | D-3 |
| IC951 | C-3 |
| **TRANSISTOR** | |
| Q301 | F-3 |
| Q401 | F-3 |
| **CONDENSER** | |
| C301 | G-3 |
| C302 | G-3 |
| C303 | G-3 |
| C304 | G-3 |
| C305 | F-3 |
| C306 | E-3 |
| C307 | E-3 |
| C308 | F-2 |
| C309 | F-3 |
| C310 | F-2 |
| C311 | D-3 |
| C312 | E-3 |
| C313 | F-2 |
| C314 | D-3 |
| C315 | F-2 |
| C316 | D-2 |
| C401 | G-2 |
| C402 | G-2 |
| C403 | —— |
| C404 | G-2 |
| C405 | F-2 |
| C406 | E-3 |
| C407 | D-3 |
| C408 | D-3 |
| C409 | D-3 |
| C410 | D-3 |
| C411 | —— |
| C412 | —— |
| C413 | D-2 |
| C414 | —— |
| C415 | —— |
| C416 | D-2 |
| C956 | B-3 |
| C957 | —— |
| C958 | B-3 |
| C959 | B-3 |
| C960 | B-3 |
| C961 | —— |
| C962 | —— |
| C963 | C-2 |
| C964 | C-2 |
| C965 | C-3 |
| C966 | C-3 |
| C967 | —— |
| C968 | —— |
| C969 | C-3 |
| C970 | C-3 |

| REF.No | INDEX |
|---|---|
| **RESISTOR** | |
| R301 | G-3 |
| R302 | G-3 |
| R303 | F-3 |
| R304 | F-3 |
| R305 | F-2 |
| R306 | F-2 |
| R307 | E-2 |
| R308 | E-2 |
| R309 | E-2 |
| R310 | E-2 |
| R311 | E-2 |
| R312 | F-2 |
| R313 | C-2 |
| R314 | C-2 |
| R315 | F-3 |
| R401 | G-2 |
| R402 | G-2 |
| R403 | G-2 |
| R404 | F-3 |
| R405 | —— |
| R406 | —— |
| R407 | D-3 |
| R408 | E-2 |
| R409 | D-2 |
| R410 | D-2 |
| R411 | —— |
| R412 | —— |
| R413 | C-2 |
| R414 | —— |
| R415 | G-2 |
| R954 | B-2 |
| R955 | E-2 |
| R956 | B-2 |
| R957 | B-2 |
| R958 | —— |
| R959 | —— |
| R960 | —— |
| R961 | —— |
| R962 | —— |
| R963 | C-2 |
| R964 | C-2 |
| R965 | D-2 |
| R966 | C-2 |
| R967 | C-2 |
| R968 | B-3 |
| R969 | A-2 |
| **VR** | |
| VR301 | F-3 |
| VR302 | D-3 |
| VR401 | F-3 |
| VR952 | A-2 |
| **CONNECTOR** | |
| CON302 | G-3 |
| CON303 | F-2 |
| CON304 | B-2 |
| CON305 | B-3 |
| CON306 | D-2 |
| **OTHERS** | |
| TP301 | F-3 |
| TP401 | F-3 |
| TJ302 | F-3 |

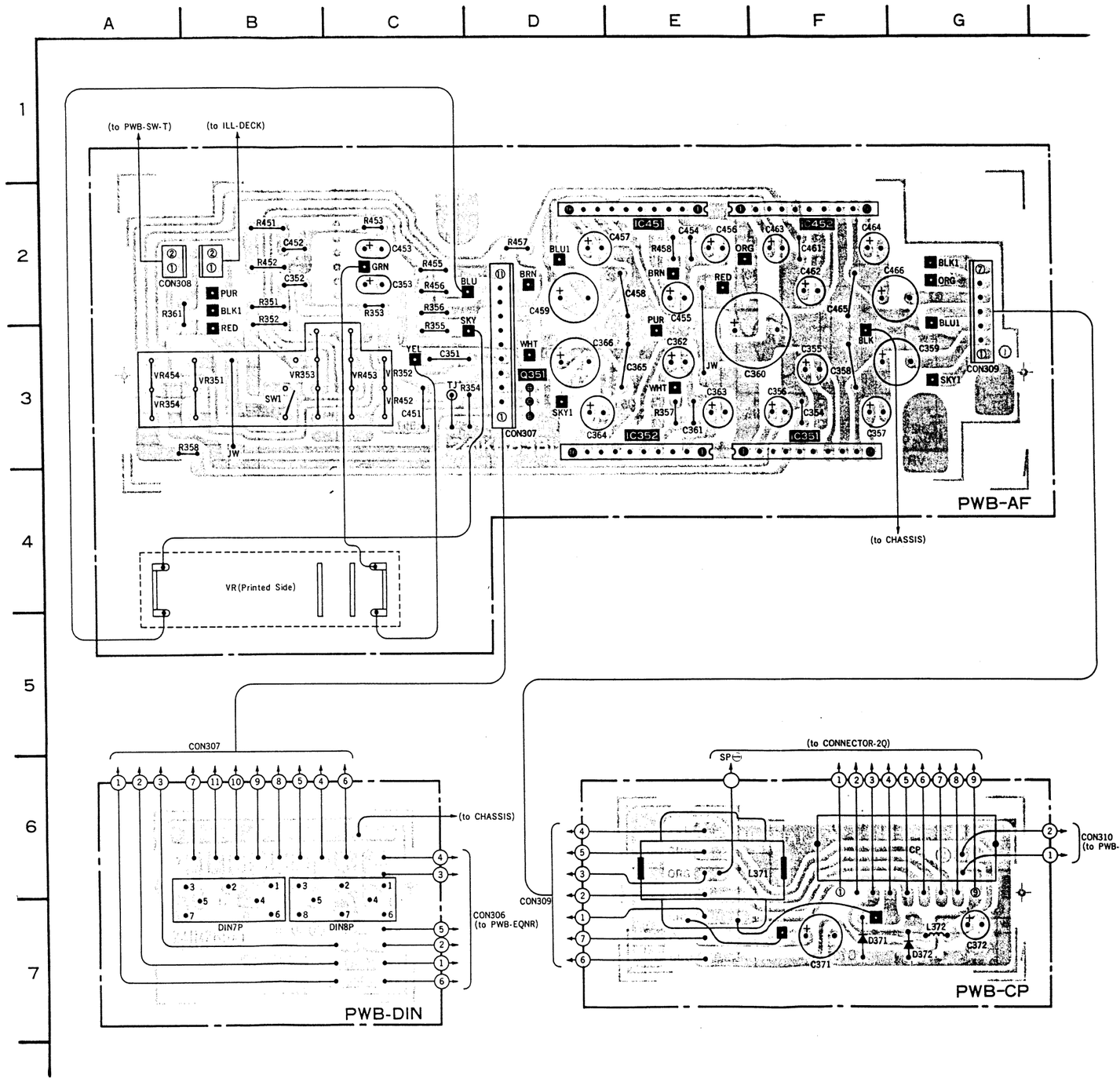
## PWB-DECK (REV)

| REF.No | INDEX |
|---|---|
| **I C** | |
| IC701 | G-5 |
| **TRANSISTOR** | |
| Q701 | G-5 |
| Q702 | F-5 |
| **DIODE** | |
| D701 | F-5 |
| D702 | G-5 |
| D703 | G-5 |
| D704 | F-5 |
| D705 | G-5 |
| **CONDENSER** | |
| C701 | G-5 |
| C702 | G-6 |
| C703 | G-5 |
| C704 | G-6 |
| C705 | G-6 |
| C706 | F-5 |
| C707 | F-6 |
| **RESISTOR** | |
| R701 | F-5 |
| R702 | F-5 |
| R703 | F-5 |
| R704 | G-6 |
| R705 | F-5 |
| R706 | F-5 |
| R707 | F-5 |
| R708 | F-5 |
| R709 | G-5 |
| R710 | F-5 |
| R711 | G-5 |
| R712 | G-5 |
| R713 | E-5 |
| R714 | F-5 |
| R715 | F-5 |
| **CONNECTOR** | |
| CON301 | E-5 |

# SCHEMATIC DIAGRAM : RX-250
## PWB-EQNR/DECK



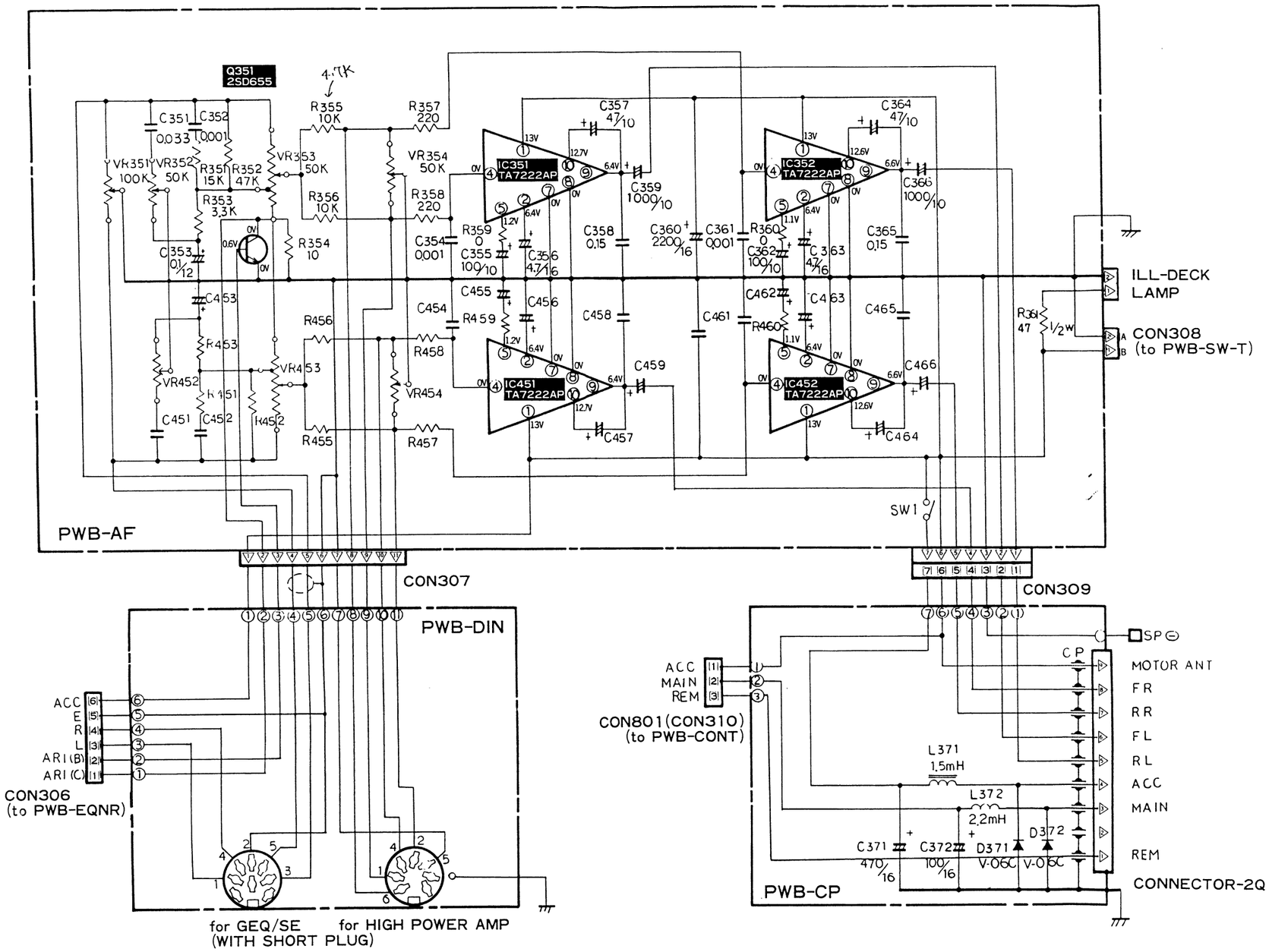
# PRINTED CIRCUIT BOARD (PATTERN SIDE)
# PWB-AF/DIN/CP



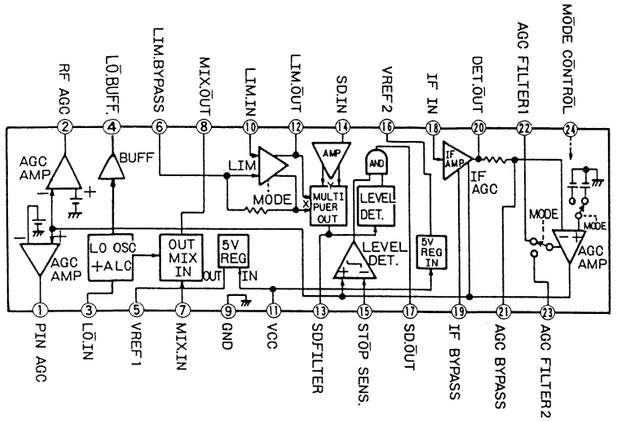

## PWB-AF

| REF.No | INDEX | REF.No | INDEX |
|---|---|---|---|
| IC | | RESISTOR | |
| IC351 | F-3 | R351 | B-2 |
| IC352 | E-3 | R352 | B-2 |
| IC451 | E-2 | R353 | C-2 |
| IC452 | F-2 | R354 | C-3 |
| | | R355 | C-3 |
| TRANSISTOR | | R356 | C-2 |
| Q351 | D-3 | R357 | E-3 |
| | | R358 | B-3 |
| CONDENSER | | R359 | —— |
| C351 | C-3 | R360 | —— |
| C352 | B-2 | R361 | A-2 |
| C353 | C-2 | R451 | B-2 |
| C354 | F-3 | R452 | B-2 |
| C355 | F-3 | R453 | C-2 |
| C356 | F-3 | R454 | —— |
| C357 | F-3 | R455 | C-2 |
| C358 | F-3 | R456 | C-2 |
| C359 | G-3 | R457 | D-2 |
| C360 | F-3 | R458 | E-2 |
| C361 | E-3 | R459 | —— |
| C362 | E-3 | R460 | —— |
| C363 | E-3 | | |
| C364 | D-3 | VR | |
| C365 | E-3 | VR351 | B-3 |
| C366 | D-3 | VR352 | C-3 |
| C451 | C-3 | VR353 | B-3 |
| C452 | B-2 | VR354 | A-3 |
| C453 | C-2 | VR452 | C-3 |
| C454 | E-2 | VR453 | C-3 |
| C455 | E-2 | VR454 | A-3 |
| C456 | E-2 | | |
| C457 | D-2 | CONNECTOR | |
| C458 | E-2 | CON307 | D-3 |
| C459 | D-2 | CON308 | A-2 |
| C460 | —— | CON309 | G-3 |
| C461 | F-2 | | |
| C462 | F-2 | | |
| C463 | F-2 | | |
| C464 | G-2 | | |
| C465 | F-2 | | |
| C466 | G-2 | | |

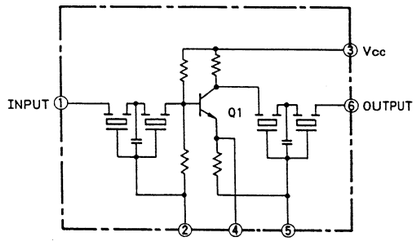
# SCHEMATIC DIAGRAM : RX-250
## PWB-AF/DIN/CP



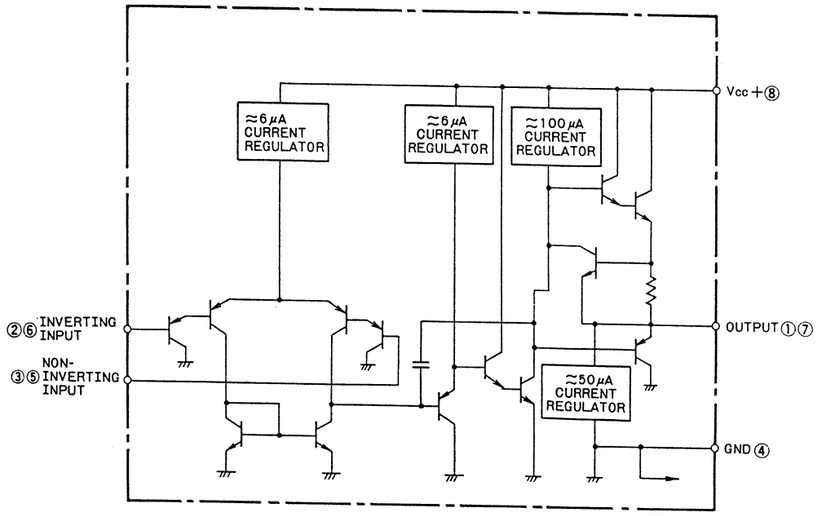
# IC BLOCK DIAGAM



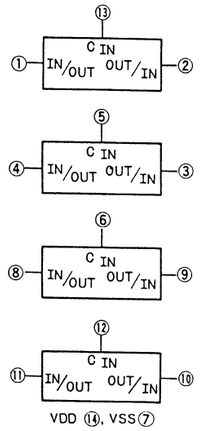

IC1 (M51191L)
AM·RF.IF



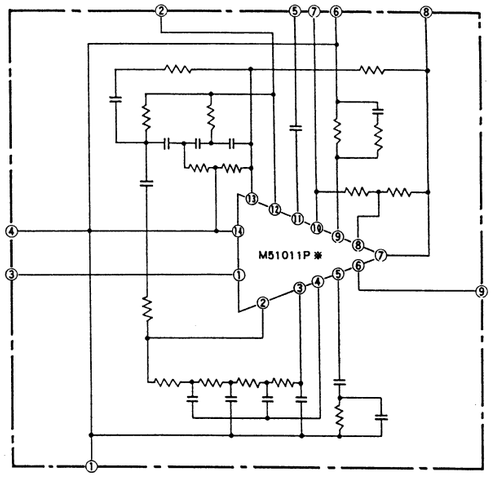

HIC151 (H8D1466)
IF SYSTEM FOR FM



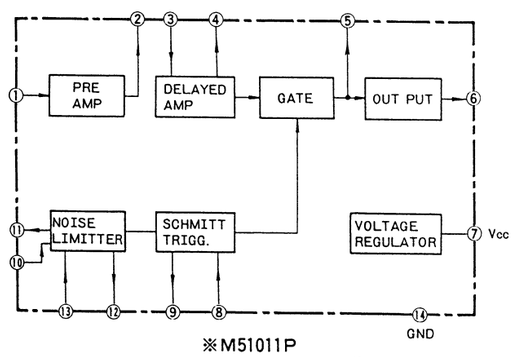

IC153, 155 (LM358P)



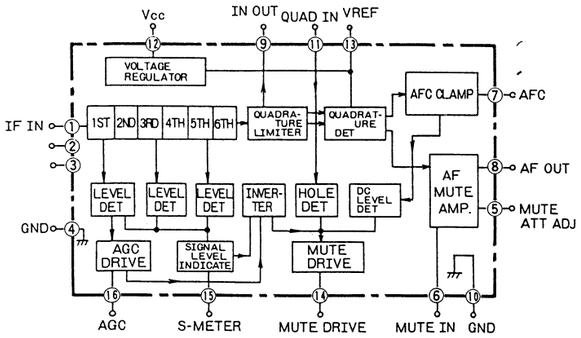

IC156 (TC4016BP)
QUAD BILATERAL SWITCH



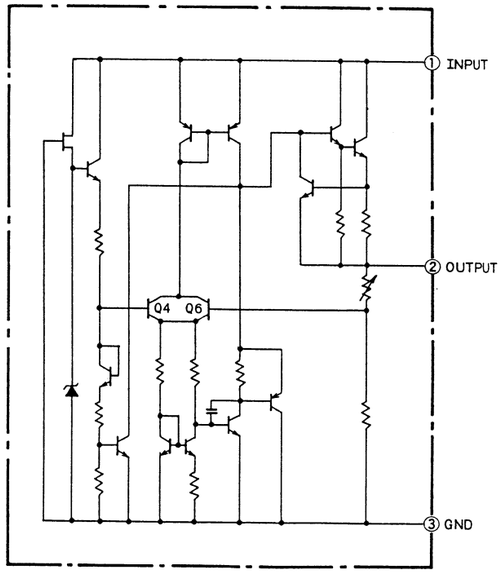

HIC251 (NC8201)
FM NOISE KILLER



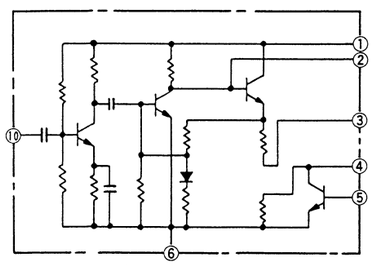

※M51011P



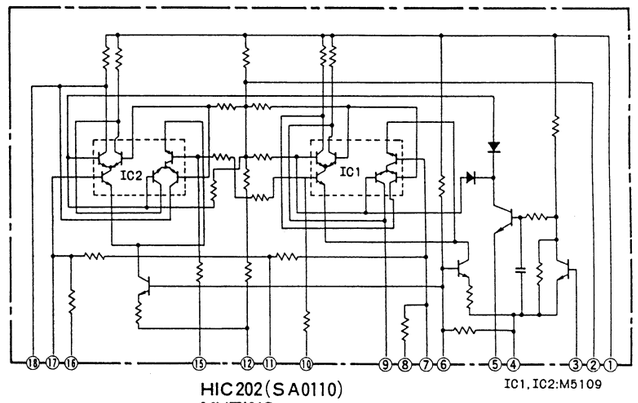

IC151 (LA1140)
IF SYSTEM FOR FM



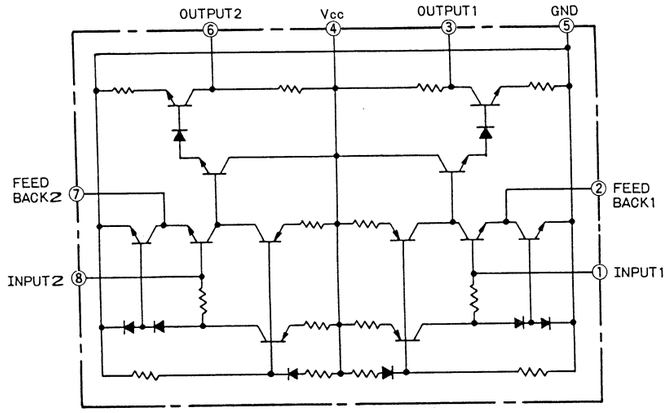

IC101 (TA78L007AP)
THREE TERMIRAL POSITIVE-
VOLTAGE REGALATOR



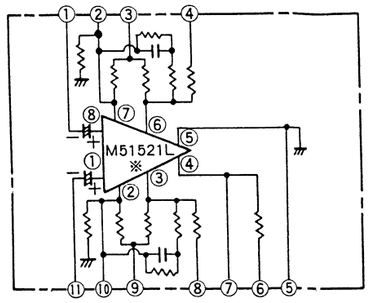
HIC252 (SA8284)
VOLTAGE CONTROL CIRCUIT FOR S.R.C



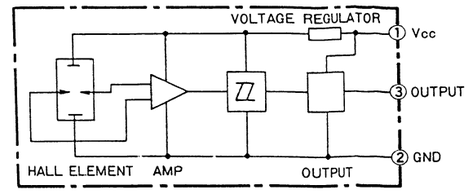

HIC202 (SA0110)
MUTING
IC1, IC2: M5109



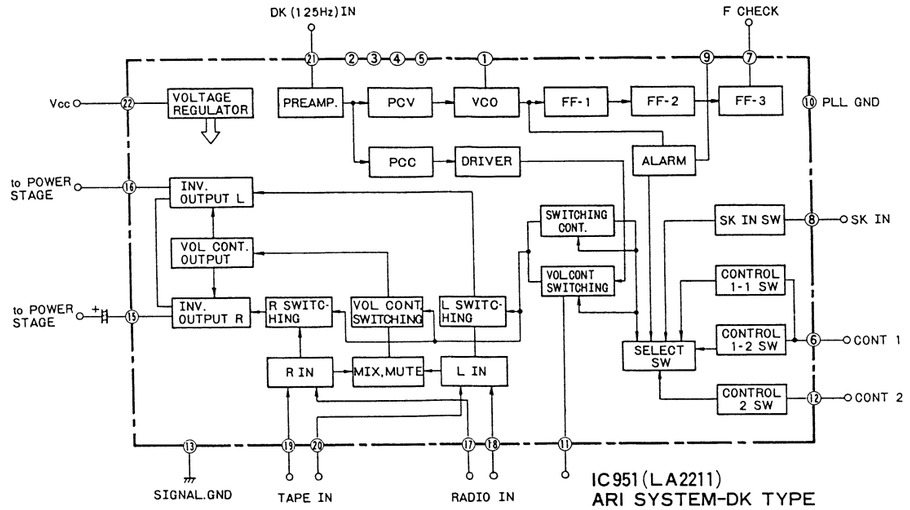

※M51521L



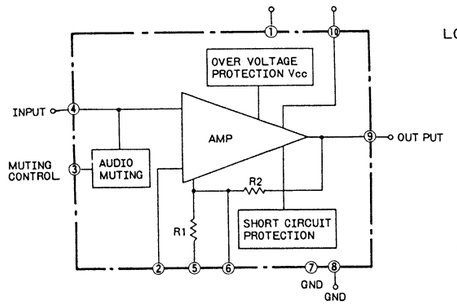

IC301(EA9082)
PRE AMP



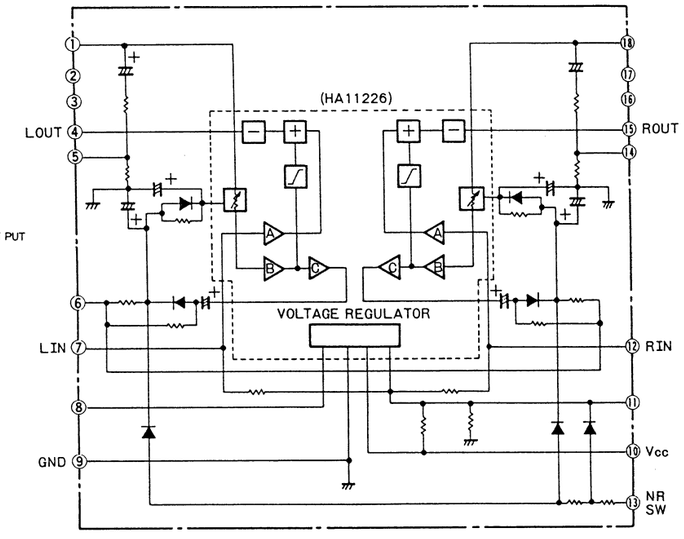

IC702,703(DN6838A)
HALL IC



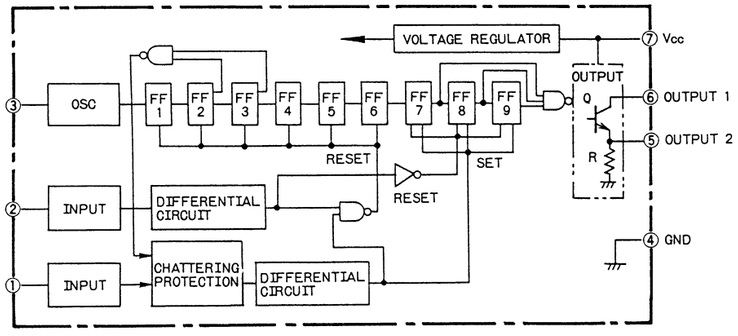

IC951(LA2211)
ARI SYSTEM-DK TYPE



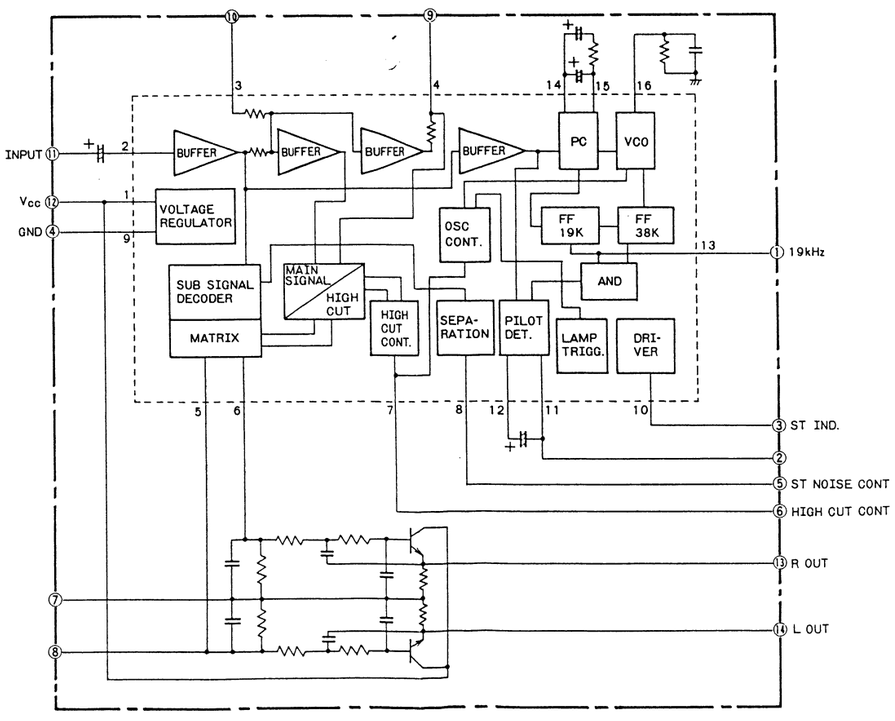

IC351,352
451,452(TA7222AP)
AF AMPLIFIER



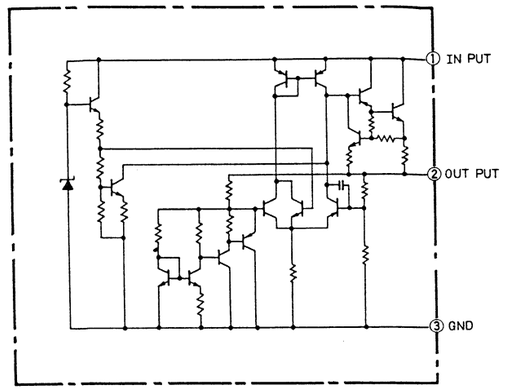

IC302(NC8500)
DOLBY



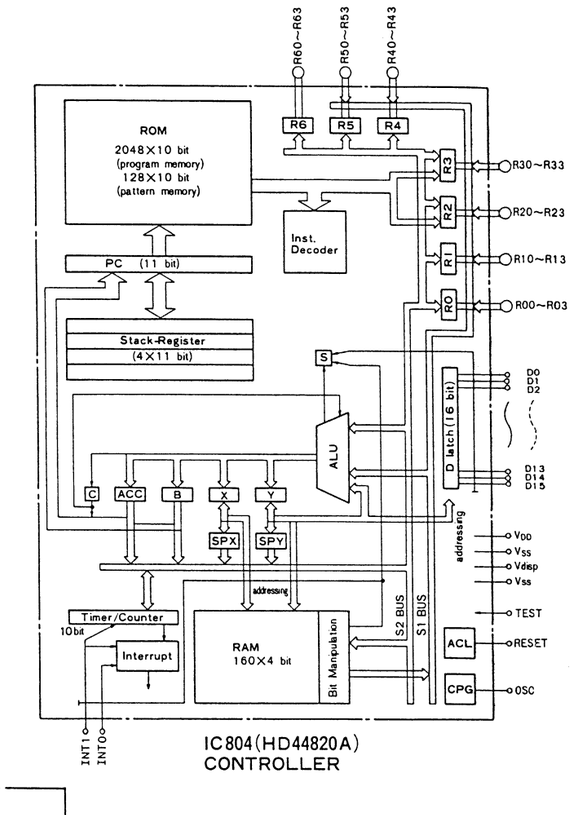

IC701(AN6247)
AUTO REV.CONTROL



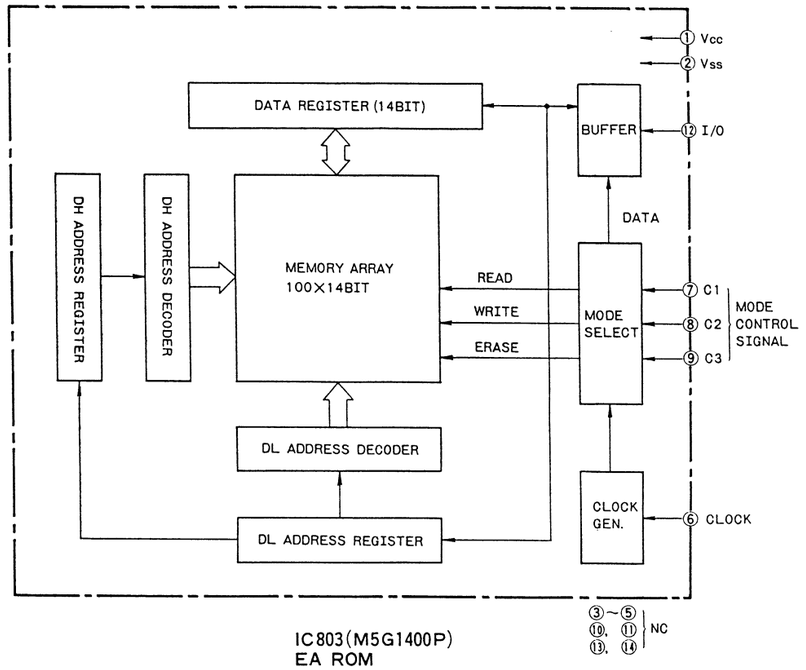

HIC201(MX5500)
NEW S.R.C



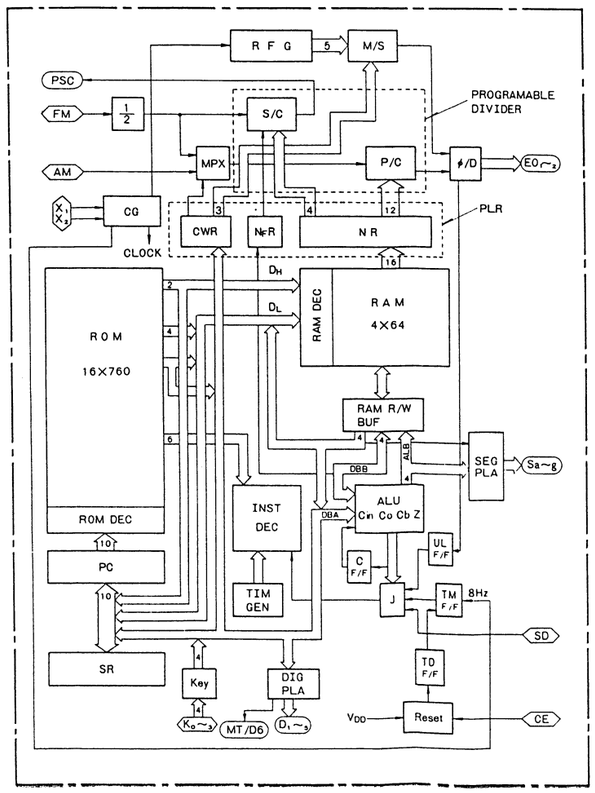

IC801, 802(μPC78L005)
IC154 (μPC78L008)
THREE TERMINAL POSITIVE VOLTAGE REGULATOR



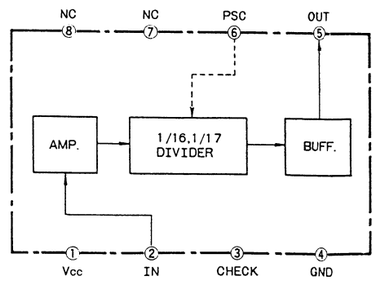

IC804(HD44820A)
CONTROLLER



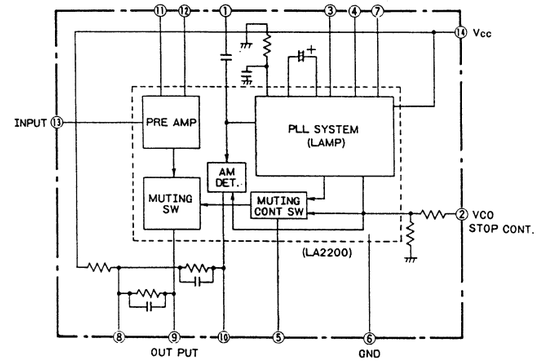

IC803(M5G1400P)
EA ROM



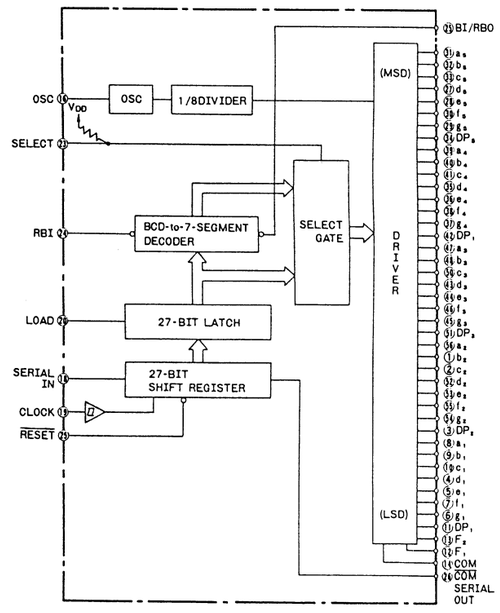

IC805(μPD1701C)
PLL CONTROLLER




IC806(μPB553C)
TWO MODULUS PRESCALER



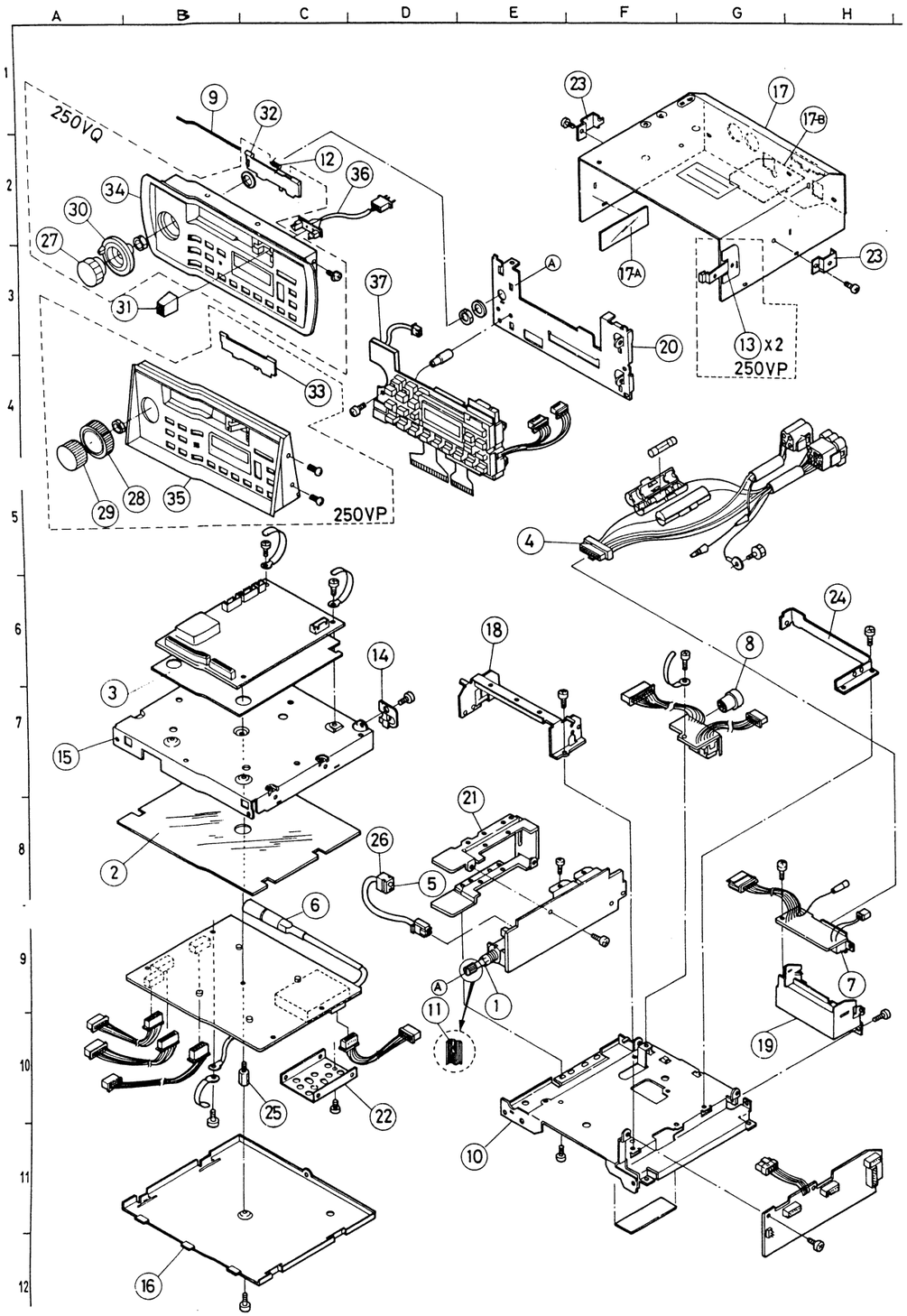

HIC951(TD1001)
ARI SYSTEM-SK TYPE




MSM5829GS DISPLAY DRIRER

## EXPLODED VIEW

### 1) Chassis




## 5. PARTS LIST

### MECHANICAL PARTS

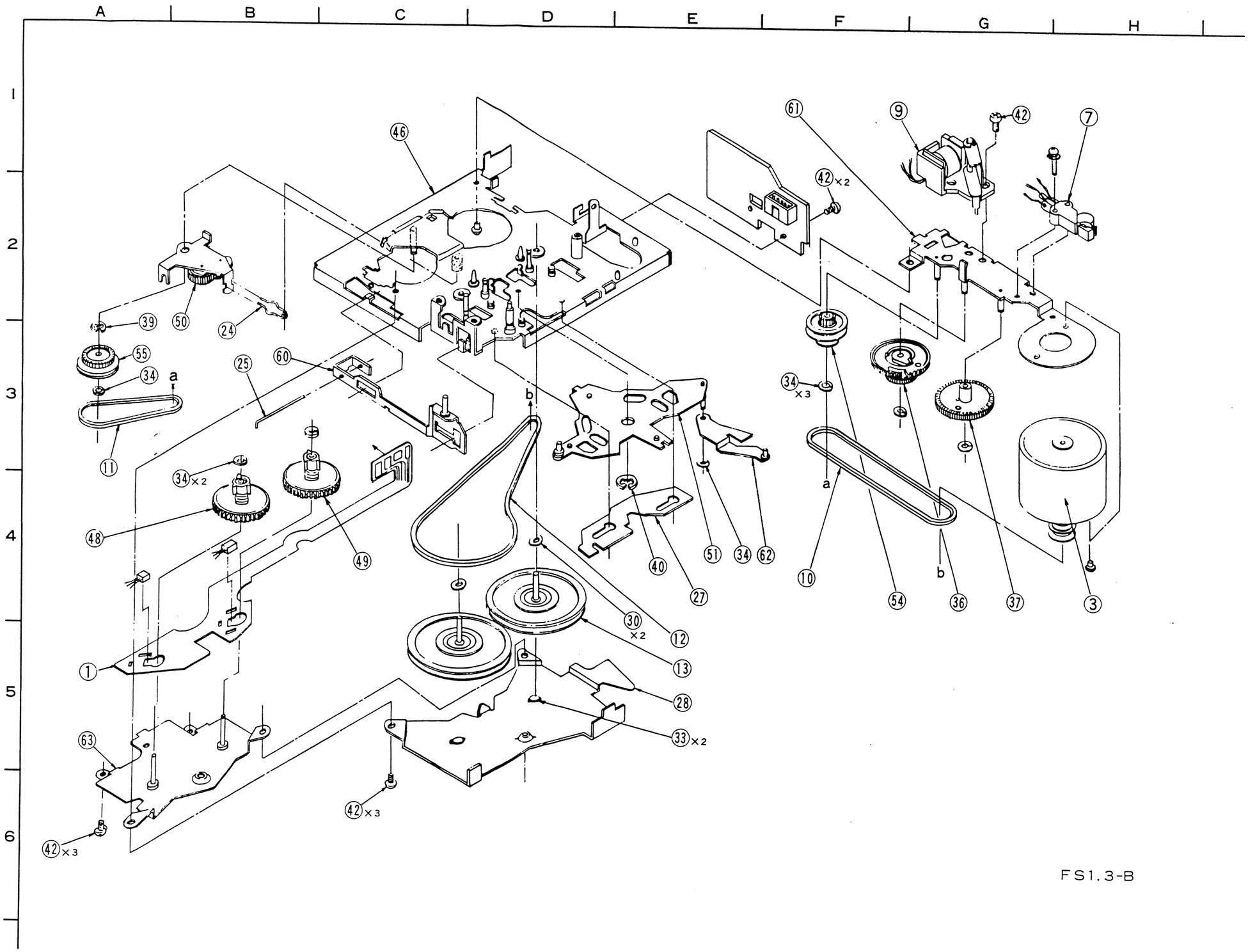
### 1) Chassis

RX-250VQ ..... (1)
CR-101 ..... (2)

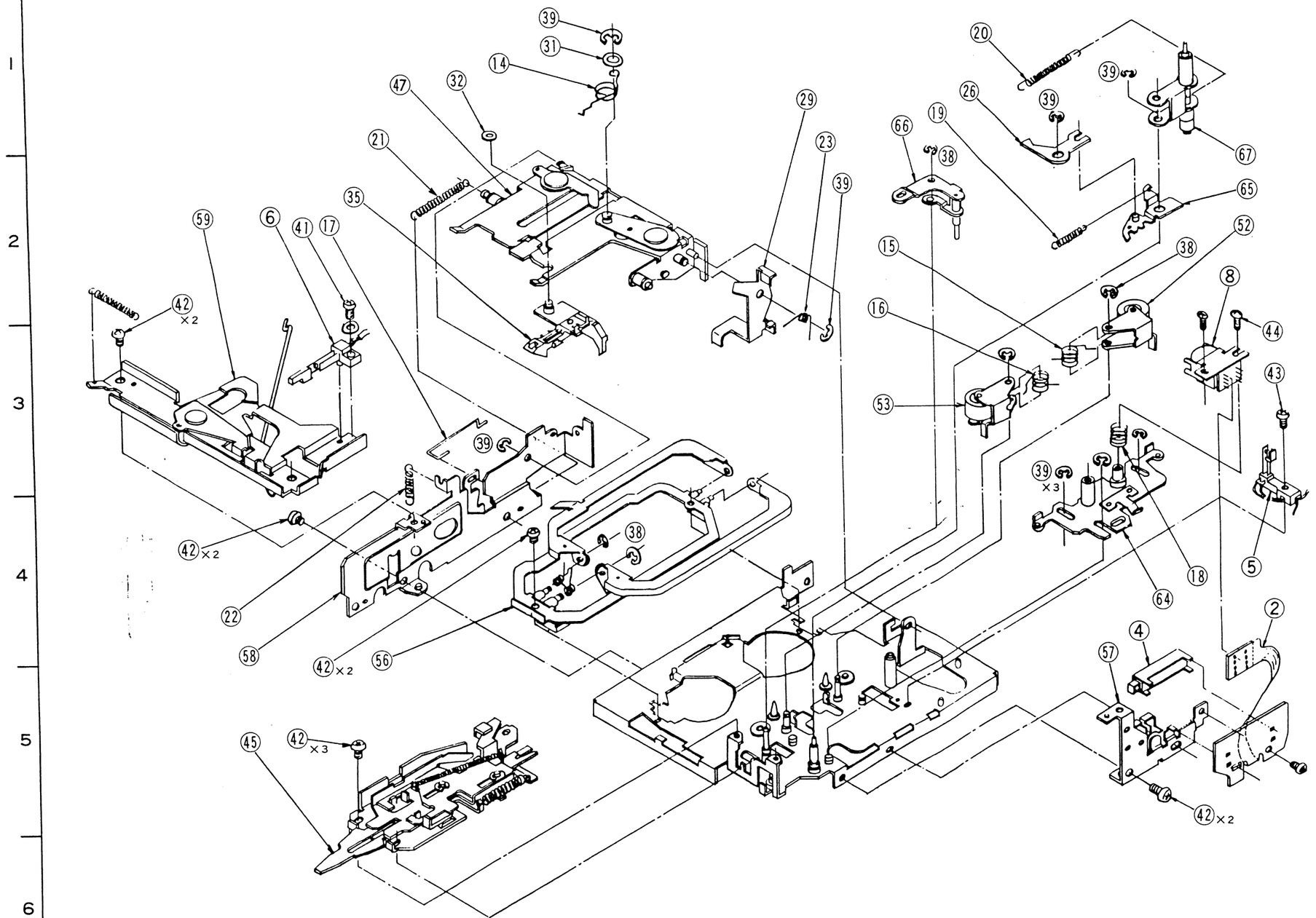
| Ref. No. | Part No. | Description | Index |
|---|---|---|---|
| 1 | 129 L12801 | VR-DOUBLE-SHAFT | E-10 |
| 2 | 228 L00601 | INSULATOR-RIF | A-8 |
| 3 | 228 L00701 | " -CONTROL | A-7 |
| 4 | 242K00805 | CONNECTOR-RX-2Q | E-5 |
| 5 | 258K01003 | LEAP-LAMP (ILL-DECK) | D-8 |
| 6 | 449 L02207 | SOCKET-ANT | C-9 |
| 7 | 449 L03201 | CONNECTOR-CP | H-9 |
| 8 | 459 L01101 | PLUG-DIN-8P-SHORT | G-6 |
| 9 | 531M07203 | SHAFT-SHUTTER | B-1 |
| 10 | 560K09801 | BASE-CHASSIS | E-11 |
| 11 | 570M36001 | SPRING-SHAFT | D-10 |
| 12 | 570M36302 | " -SHUTTER | C-2 |
| 13 | 570M39301 | " -SNAP (2) | G-4 |
| 14 | 590D95401 | CABLE-CLAMPER | D-6 |
| 15 | 590K25601 | CHASSIS-R | A-7 |
| 16 | 590K26001 | BOTTOM-COVER | B-12 |
| 17 | 590K26101 | UPPER-COVER | G-1 |
| 17-A | 228M02501 | INSULATOR-VOL | F-3 |
| 17-B | 642M10001 | " -PLATE | H-2 |
| 18 | 590 L84001 | HOLDER-DECK-A | E-6 |
| 19 | 590 L84101 | " -CP | G-10 |
| 20 | 590 L84201 | FRONT-PLATE | F-3 |
| 21 | 590 L84301 | HEAT-SINK | E-8 |
| 22 | 591M50001 | SHIELD-CASE | C-11 |
| 23 | 591M94101 | BRACKET | F-1 H-3 |
| 24 | 591M74201 | HOLDER-DECK-B | H-6 |
| 25 | 630M00801 | POST-R | C-11 |
| 26 | 641M18201 | HOLDER-LAMP | D-8 |
| 27 | 704 L03401 | KNOB-S (1) | A-2 |
| 28 | 704 L12301 | " -B (2) | B-5 |
| 29 | 704 L12401 | " -A (2) | A-5 |
| 30 | 943 L50801 | ASSY-KNOB-B (1) | A-2 |
| 31 | 704M47901 | KNOB-EJ | B-3 |

| Ref. No. | Part No. | Description | Index |
|---|---|---|---|
| 32 | 761 L02101 | SHUTTER (1) | C-1 |
| 33 | 761 L02102 | " (2) | C-4 |
| 34 | 963 L19201 | ASSY-PANEL (1) | A-2 |
| 34-A | 550 L00102 | CUSHION-PANEL | – |
| 34-B | 702K19602 | PANEL | - |
| 34-C | 703 L00901 | ORNAMENT-250VQ | – |
| 35 | 963 L19202 | ASSY-PANEL (2) | B-5 |
| 35-A | 550 L00701 | CUSHION-PANEL (R) | - |
| 35-B | 550 L00702 | " (L) | – |
| 35-C | 702K21001 | PANEL | - |
| 35-D | 703 L01001 | ORNAMENT-250VP | – |
| 35-E | 704M44501 | COVER | – |
| 35-F | 760M01901 | FILTER-A | - |
| 35-G | 760 L00401 | " -B | - |
| 36 | 923 L97101 | ASSY-LED | D-2 |
| 36-A | 452 L03204 | LEAD-CONNECTOR | – |
| 36-B | 641M27701 | SPACER-LE | - |
| 37 | 891K03901 | ASSY-SW | D-3 |
| 37-A | 704M50401 | BUTTON <PRO. METAL> <BOLT.ST/MO> | - |
| 37-B | 704M50402 | " <AVI> | – |
| 37-C | 704M50403 | " <U/M/L> <CLR, ER> | – |
| 37-D | 704M50404 | " <MTS> | – |
| 37-E | 704M50405 | " <MEM> | – |
| 37-F | 704M50406 | " <CH1~6> | – |
| 37-G | 704M50407 | " <UP, DWN> | – |
| 37-H | 704M50408 | " <SEARCH> | – |
| 37-I | 432 P03601 | SW-PUSH <SW901,902> 904,905 | – |
| 37-J | 432M00301 | " <SW903> | – |
| 37-K | 264 P27901 | LED AVI(AMBER) | – |
| 37-L | 264 P27701 | " (GRN) | – |
| 37-M | 264 P27801 | " (AMBER) | – |
| 37-N | 439M01001 | SW-GUM (BRK) | – |
| 37-O | 641M29501 | SW-GUIDE | – |

EXPLODED VIEW
2) Tape Deck




FS1.3-B


I
J
K
L
M
N
O
P
1
2
3
4
5
6
39
31
14
47
32
21
35
29
23
39
59
6
41
17
42 ×2
39
42 ×2
22
58
42 ×2
56
38
45
42 ×3
20
39
26
39
19
66
38
67
65
15
38
52
16
8
44
53
43
39 ×3
5
18
64
4
57
2
42 ×2

FS 1.3-B

ELECTRICAL PARTS

| REF. NO. | PART NO. | DESCRIPTION |
|---|---|---|
| **RESISTORS & CAPACITORS** | | |
| R844 | 109 P0400 1 | R-BLOCK (RM7-104K) |
| VR1,952 | 127M0300 1 | VR-SEMIFIXED 5kΩ |
| VR202,203 302 | 127M0300 2 | " 10kΩ |
| VR201,301 401 | 127M0300 3 | " 20kΩ |
| VR951 | 127M0300 4 | " 50kΩ |
| VR151,153 154 | 127M0300 5 | " 100kΩ |
| VR252 | 127M0300 6 | " 1kΩ |
| VR152,155 156,251 | 127M0300 7 | " 200kΩ |
| VR205 | 127M0310 2 | " 20kΩ |
| SW1, VR351~ 354 VR452~ 454 | 129 L1280 1 | VR-DOUBLE-SHAFT |
| VC2,4 101~ 104 | 202 P1090 1 | C-TRIMMER 3~11PF |
| VC5,801 | 202 P1090 2 | " 20PF |
| VC1,3 | 202 P1090 4 | " 6.8~45PF |
| **SEMICONDUCTORS** | | |
| Q301,401 | 260M0100 4 | TR 2SC458-C |
| Q105 | 260 P0540 3 | " 2SC738-C |
| Q702,813, 815 | 260 P1650 4 | " 2SA628-F |
| Q806,807 | 260 P1680 3 | " 2SA695-D |
| Q251 | 260 P1710 3 | " 2SC710-C |
| Q102, 151~154, 801, 808~812, 901 | 260 P1750 1 | " 2SC711-F |
| Q101,103 | 260 P2380 1 | " 3SK59-Y |
| Q803,902, 903 | 260 P2600 3 | " 2SA696-D |
| 12 | 260 P2680 2 | " 2SA1115-E |
| Q14,701 | 260 P2800 3 | " 2SC1210-D |
| Q1,5~9 11,13,15 | 260 P3380 2 | " 2SC2603-E |
| Q3,816 | 260 P3380 3 | " 2SC2603-F |
| Q805 | 260 P3490 2 | " 2SC1472 |
| Q10 | 260 P3980 1 | " 2SD335-D |
| Q2,4 | 260 P4120 1 | " 2SK168-E |
| Q104,106 | 260 P4120 2 | " 2SK168-E1 |
| Q16,351, 951 | 260 P4310 1 | " 2SD655-F |
| IC156 | 263 P0160 1 | IC TC4016BP |
| D101,102 | 264 P0130 6 | DIODE IN60P |
| D371,372, 703,704, 801,802 | 264 P0880 1 | " V-06C |
| D10 | 264 P1930 3 | " MZ-305B |
| D12 | 264 P1930 8 | " MZ309B2 |
| | 264 P1980 3 | LED GL9PG6 (GRN) |
| D201 | 264 P2110 4 | DIODE RD-8.2F |
| D11,701 | 264 P2200 6 | " MZ-310B |
| D702,805 | 264 P2200 9 | DIODE MZ-306C |
| D705 | 264 P2210 2 | " MZ-308B |
| D131~134 | 264 P2410 2 | " SVC201 |
| D3, 4 | 264 P2430 1 | " 1SV77 |
| D5, 6, 7 | 264 P2600 1 | " KV-1235 |
| R162,183 | 265 P0650 1 | THERMISTOR 10kΩ |
| R115 | 265 P0680 1 | " 1kΩ |
| IC702,703 | 266M0140 1 | HALL IC DN6838A |
| IC351,352 451,452 | 266 P3290 1 | IC TA7222AP |
| IC153,155 | 266 P3600 1 | " LM358P |
| IC151 | 266 P3660 1 | " LA1140 |
| IC1 | 266 P3760 1 | " M51191L |
| IC803 | 266 P5870 1 | " M5G1400P |
| IC805 | 266 P5880 1 | " MPD1701C-511 |
| IC806 | 266 P5890 1 | " μPB553C |
| IC701 | 266 P6260 1 | " AN6247 |
| IC951 | 266 P7920 1 | " LA2211 |
| — | 266 P7950 1 | " MSM5829GS |
| IC807 | 266 P8060 1 | " SN7406N |
| IC801,802 | 266 P9050 1 | " μPC78L005 |
| IC152,154 | 266 P9050 2 | " μPC78L008 |
| IC101 | 266 P9160 1 | " TA78L007AP |
| IC804 | 266 P9720 3 | " HD44820A38 |
| IC301 | 267 P3070 2 | HIC EA9082 |
| IC302 | 267 P3090 2 | " NC8500 |
| HIC201 | 267 P3110 1 | " MX5500 |
| HIC951 | 267 P3120 1 | " TD1001 |
| HIC202 | 267 P3130 1 | " SA0110 |
| HIC151 | 267 P3160 1 | " H8D1466 |
| HIC251 | 267 P7100 2 | " NC8201 |
| HIC252 | 267 P8020 3 | " SA8284A |
| D1,2,8,9, 13,14 | 269M0120 1 | DIODE 1S953/1S2076/1S2472/ 1S2073/DS442 |
| D151,153, 202~204 803,804, 806~818 | " | " " |
| D826~838, 901 | " | " " |
| **COILS & TRANSFORMERS** | | |
| L2,372, 801 | 321 C0100 8 | COIL-CHOKE (2.2mH) |
| L104,151 | 321 P0010 7 | " (6.8μH) |
| L105 | 321 P0010 7 | " (56μH) |
| L802 | 321 P0050 1 | " (470μH) |
| L1 | 321 P0050 2 | " (2.2μH) |
| L3, 4 | 321 P0050 3 | " (820μH) |
| L371 | 351M0080 2 | " (1.5mH) |
| L152 | 351M0150 1 | COIL-IF (22μH) |
| L102 | 361 L0020 2 | COIL-OSC |
| L103 | 361M0040 2 | " -OSC |
| T3, 6 | 361M0050 1 | " -RF (56μH) |
| T9, 10 | 373 L0040 1 | TRANS-OSC (RED) |
| T11 | 374 L0350 3 | " -IF |
| T151 | 374 L0360 1 | " |
| T152 | 374 L0360 2 | " |
| T104 | 374M0060 1 | " |
| T101,102 | 409 L0110 1 | TRANS-RF |
| T103 | 409 L0110 2 | " |
| T951 | 409 L0130 1 | COIL-TRAFIC (57kHz) |

| REF. NO. | PART NO. | DESCRIPTION |
|---|---|---|
| **COILS & TRANSFORMERS** | | |
| T1 | 409 L0150 1 | TRANS-ANT (MW) |
| T2 | 409 L0160 1 | " (LW) |
| T4 | 409 L0170 1 | TRANS-RF (MW1) |
| T7 | 409 L0170 3 | " (MW2) |
| T5 | 409 L0180 1 | " (LW1) |
| T8 | 409 L0180 2 | " (LW2) |
| **OTHERS** | | |
| | 242K0080 5 | CONNECTOR-2Q |
| CON309 | 242K0370 3 | LEAD-CONNECTOR-NH 7P |
| CON306 | 242K0750 3 | " 6P |
| CON307 | 242K0780 7 | " 11P |
| CON302 | 242 L3000 3 | LEAD-CONNECTOR 3P |
| CON803 | 242 L3520 8 | " 5P |
| CON802 | 242 L3550 6 | CONNECTOR-C-XH 7P |
| CON305 | 242 L3570 0 | " 8P |
| CON301 | 242 L5710 6 | LEAD-CONNECTOR-5P |
| | 242M0290 3 | LEAD (SP-E) |
| CON804 | 242M2370 1 | CONNECTOR-C-XH 6P |
| CON303 | 242M2520 1 | LEAD CONNECTOR-E 6P |
| CON304 | 242M2520 2 | " 5P |
| CON308 | 242M2520 3 | " 2P |
| (ST/MO) | 242M2520 4 | " 1P |
| | 253K0100 3 | LEAD-LAMP (ILL-DECK) |
| | 253 L0230 2 | LAMP (ILL-LCD) |
| DC801 | 283 P1020 1 | DC-DC CONVERTER |
| X801 | 285 L0030 3 | X-TAL 4.5 MHz |
| K1 | 287 L0250 6 | RELAY G2V-2 |
| | 289 P0010 1 | L.C.D |
| CF1 | 296 P0350 1 | CERAMIC-FILTER |
| CF3 | 296 P0380 1 | " |
| CF2 | 296 P0370 1 | " |
| CF801 | 299 P0310 3 | CERAMIC-OSCILLATOR |
| | 411D0050 2 | CORE-FERRITE |
| | 449 L0220 7 | SOCKET-ANT |
| | 449 L0310 1 | " -DIN-7S |
| | 449 L0320 1 | CONNECTOR-CP |
| | 449 L0370 1 | SOCKET-DIN-8S |
| (AF — to ILL DECK) | 452D0790 2 | CONNECTOR-A 2P |
| CON302 | 452D0790 3 | " 3P |
| CON309 | 452D0790 7 | " 7P |
| CON805 | 452 L0200 5 | CONNECTOR-FPC 18P |
| CON806 | 452 L0200 6 | " 10P |
| | 452 L0320 4 | LEAD-CONNECTOR 3P |
| | 452 L0330 6 | LEAD-CONNECTOR <for TAPE CH-IND,LED > |
| CON301 | 452 L0400 1 | PIN-CONNECTOR |
| | 452 L0530 1 | CONNECTOR-L.C.D <LCD-PWB-LCD> |
| CON303, 306 | 452M0230 1 | CONNECTOR 6P |
| CON804 | | |
| CON802 | 452M0230 2 | " 7P |
| CON305 | 452M0230 3 | " 8P |
| CON307 | 452M0230 6 | " 11P |
| CON308 | 452M0240 2 | CONNECTOR-E 2P |
| CON801 | 452M0240 3 | " 3P |
| CON304 | 452M0240 5 | " 5P |
| CON803 | 459 L0110 1 | PLUG-PIN-8P-SHORT |

## 2) Tape Deck

| Ref. No. | Part No. | Description | Index |
|---|---|---|---|
| 1 | 241K58101 | FPC-HALL-IC | A-5 |
| 2 | 241 L48901 | FPC-HEAD | P-4 |
| 3 | 288 L01101 | MOTOR | H-4 |
| 4 | 431 L04601 | SWITCH-SLIDE(SW301) | O-4 |
| 5 | 435 L01701 | SWITCH-LEAF (SW702) | P-4 |
| 6 | 435 L01801 | " (SW703) | J-2 |
| 7 | 439 L00101 | SWITCH-SQ (SW701) | H-1 |
| 8 | 460 P03101 | MAGNETIC HEAD | P-2 |
| 9 | 479 L01301 | MAGNETIC CLUTCH | F-1 |
| 10 | 521M02801 | BELT-SI | F-4 |
| 11 | 521M02901 | BELT-A | A-4 |
| 12 | 521M03001 | BELT-B | E-4 |
| 13 | 524 L00902 | FLYWHEEL | E-5 |
| 14 | 570M34203 | SPRING-IE | K-1 |
| 15 | 570M34303 | SPRING-PINCH | M-2 |
| 16 | 570M34304 | " | M-3 |
| 17 | 570M34601 | WIRE-STOPPER | J-2 |
| 18 | 570M34701 | SPRING-HEAD | O-4 |
| 19 | 570M35101 | SPRING-FF-RE | N-1 |
| 20 | 570M35201 | SPRING-SL-B | N-1 |
| 21 | 570M35504 | SPRING-CH | J-1 |
| 22 | 570M35601 | SPRING-SCH | I-4 |
| 23 | 570M36801 | SPRING-UP | M-1 |
| 24 | 570M38401 | SPRING-AR | B-3 |
| 25 | 570M38501 | WIRE-FF-RE | B-3 |
| 26 | 590 L87001 | LINK RELEASE | N-1 |
| 27 | 590 L87101 | CAM PLATE-FF | E-4 |
| 28 | 590 L87201 | BOTTOM-FW | E-5 |
| 29 | 591M79101 | UP-LEVER | M-2 |
| 30 | 640M00201 | WASHER-P 0.25t x 2$\phi$ | |
| 31 | 640M03003 | " 0.5t x 3.1$\phi$ | |
| 32 | 640M03004 | " 0.5t x 2.6$\phi$ | |
| 33 | 640M04201 | BOTTOM CAP | F-3 |
| 34 | 640M04301 | CUT-WASHER-P 0.25t x 1.5$\phi$ | |
| 35 | 641 L02901 | SLIDER PAC | J-2 |
| 36 | 641 L04102 | CAM GEAR | G-4 |
| 37 | 641M19801 | GEAR CLANK | G-4 |
| 38 | 685 C00203 | RETAINING RING E1.5 | |
| 39 | 685 C00205 | " E2.5 | |
| 40 | 685 C00207 | " E4 | |
| 41 | 669 L02703 | SCREW-BINDING M2 x 5 | |
| 42 | 669 L02704 | " M2.6x3 | |
| 43 | 669 L02706 | " M2.6x6 | |
| 44 | 669M07001 | SCREW-LING LOCK M2x5.3 | P-3 |
| 45 | 891K02002 | UNIT LEVER CONTROL | J-5 |
| 46 | 891K02101 | MAIN BASE | C-1 |
| 47 | 891K02201 | HOLDER CASSETTE | K-1 |
| 48 | 891 L06003 | UNIT REEL REST | A-4 |
| 49 | 891 L06004 | " | C-4 |
| 50 | 891 L06103 | LEVER IDLER | A-3 |
| 51 | 891 L06502 | LEVER-CRANK | E-4 |
| 52 | 891 L07003 | PINCH ROLLER | P-2 |
| 53 | 891 L07004 | " | N-3 |
| 54 | 891 L08801 | PULLEY GEAR | F-4 |
| 55 | 891 L08901 | GEAR PULLEY | A-3 |
| 56 | 891 L10301 | UNIT BRIDGE | J-5 |
| 57 | 891 L10401 | UNIT HOLDER-SW | O-4 |
| 58 | 891 L10501 | UNIT SIDE PLATE | J-5 |
| 59 | 891 L10601 | UNIT PLATE SUB | J-2 |
| 60 | 891 L10701 | FF SLIDE | B-3 |
| 61 | 891 L10801 | PLATE CAM | F-1 |
| 62 | 891 L10901 | LINK CRANK | E-4 |
| 63 | 891 L11001 | BOTTOM REEL | A-5 |
| 64 | 891 L11101 | BASE HEAD | O-4 |
| 65 | 891 L11201 | LEVER RELEASE | P-2 |
| 66 | 891 L11301 | LEVER RETAINER | N-1 |
| 67 | 891 L11401 | LEVER BA-H | P-1 |